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Canada's Canal Problem and its Solution

"It is essential to the commercial independence of Canada, perhaps pre-requisite to the preservation of the political union of the Provinces, that we shall have, WITHIN OUR OWN BOUNDARIES, AND SUBJECT TO NO CONTROL BUT OUR OWN, the means of transporting the products of every part of our country to every other part, and also that we shall maintain all-Canadian routes by which the produce of all the Provinces may reach the world's markets."

A Reply

to the

Toronto Board of Trade

INTRODUCTION

When a public body of the dignity of the Toronto Board of Trade offers a contribution to the discussion of any important question, the public are entitled to expect at least accuracy and fairness of statement.

Under the guise of a general discussion of the problem of waterways between the Great Lakes and the Atlantic, the Board has recently issued a pamphlet which appears to be seriously lacking in both these respects. It is the more misleading as, to those not conversant with the subject, it has the appearance of fairness.

An enlarged St. Lawrence waterway is advocated without actual evidence of any nature being offered in its favour, and no facts are given which in any way enlighten the public, or help to elucidate the problem.

At the same time the Georgian Bay Canal is strongly condemned on very insufficient grounds. The meagre statements made with regard to it are both inaccurate and misleading, and appear to have been carefully selected from the great mass of existing evidence in its favor, with a view to creating a false impression in the minds of the public.

In the following pages, the pamphlet in question is reprinted in full, evidence of the incorrectness of its statements and the fallacy of its arguments following each paragraph.

We trust that the effort of the Toronto Board of Trade to discredit the Georgian Bay Canal and the present reply thereto will be carefully read by all Canadians interested in the question.

Canada's Canal Problem And Its Solution

"As to the importance to Canada of retaining the control of traffic seeking its way to the world markets from the West and North-West, by the route of the Great Lakes, there is practically unanimity of opinion in the Dominion. Canadians are agreed that this is essential to our commercial independence, and that without it even the preservation of the political union of the Provinces and the maintenance of our position as an integral part of the British Empire would become difficult to the verge of the impossible. Dependence upon any other nation, however friendly, for access to their own seaboard, is repugnant to any self-respecting people, and would inevitably lead to commercial subserviency—if not, indeed, to political capitulation. As to the best way to ensure this commercial independence, however, there is not the same unanimity of opinion. Yet even among those who differ as to plans and projects there is almost entire agreement that a Canadian waterway capable of carrying all the grain of that part of the North-West which may be said to be naturally tributary to the Great Lakes is absolutely essential."—(Toronto Board of Trade Pamphlet.)

Commercial and Political Independence. Involved.

This statement of the problem does not go far enough. Not only is a waterway necessary to accommodate the grain traffic of the North-West, but the transportation of other products must be provided for as well.

The total traffic of the Canadian Canal system in 1911 (38,030,353 tons), was divided as follows:—

	Tons.
Products of the mine	28,716,457
Agricultural products	5,389,070
Manufactures	2,359,063
Products of the forest	1,546,139
Farm Stock	19,624

Farm products formed only 10% of the traffic on the Sault Canal, 43% of the Welland traffic, and 32% of the St. Lawrence traffic.

About 750,000 tons of grain and flour which passed all the way from the head of the lakes to Montreal was included three times in the above aggregate, viz.: in the figures for the Sault, Welland, and St. Lawrence Canals respectively. The total amount of agricultural products moved was, therefore, only 3,889,070 tons. Agricultural products, therefore, formed little more than 10% of the aggregate traffic of the Canadian canal system.

The Sault traffic was, of course, exceptional from the fact that nearly 26,800,000 tons of American ores and coal passed through the Canadian canal. The actual volume of Canadian traffic through the canals of the Dominion in 1911 was under 10,000,000 tons, and on this basis, agricultural products constituted somewhere about one-third of the whole movement of freight.

Without going further into details, it is clear that any solution of the problem based on the requirements of the grain trade alone, must be incomplete. To develop, and to serve to the best advantage the trade in Canadian ores, coal, lumber, pulpwood, is at least quite as important as to provide an outlet for the grain of the North-West.

Provide for Large Vessels.

"The season during which the grain crop of our North-West can be transported to the seaboard by water—from the end of harvest to the close of navigation—is short, and the canal system we must construct should, therefore, be as capacious as possible. Again, inasmuch as the vessels that will carry this grain must find employment in the carrying of other kinds of freight during the rest of the summer, our canal system must be able to pass through it any vessel that can profitably navigate the lakes; anything less than that would not meet the requirements."

—(Toronto Board of Trade Pamphlet.)

Inaccurate and misleading. The grain shipments by lake from Fort William and Port Arthur in 1911 were as follows:—

	Bushels.
March	102,706
April	5,859,478
May	11,951,152
June	4,923,895
July	6,948,383
August	9,006,335
September	5,175,968
October	16,403,321
November	27,864,371
December	6,513,258

From the end of harvest to the close of navigation, (approximately from the end of September), the shipments amounted to 50,780,950 bushels. Earlier in the season they were 43,967,917 bushels. About 45% of the entire movement of grain for the season took place before the new crop came down to the lakes.

The Canadian fleet engaged in the grain trade are nearly all employed during the entire season, carrying grain. During

October and November American ore and coal boats come into competition and cut rates to a very low point. This they can do because of the enormous advantage they have in their almost undivided possession of the ore and coal traffic, which constituted 86% of the total movement of freight through the Sault Canals in 1911.

	Tons.
Iron ore	30,715,477
Coal—	
Soft	13,272,667
Hard	2,050,209
Ore and coal total	46,038,353
Total movement of freight	53,477,216

Package freight can never create a trade to offset this. The total westbound Canadian shipments of merchandise through the Welland Canal in 1911 were 144,607 tons, and in 1910, 154,160 tons, showing a decrease of nearly 10,000 tons. Until Canada can develop a traffic in coal and iron, it is difficult to see how this disadvantage of Canadian vessels on the Lakes can be overcome. The Georgian Bay Canal will materially aid in the solution of the problem.

Competition of the Erie Canal.

"Our neighbors in the State of New York realize quite as clearly as we do the importance of the control of the water-borne traffic of the West and North-West, and with splendid and entirely admirable energy they are doing all that nature will permit to divert that trade into channels of their own. They are enlarging and improving the Erie Canal, and, when completed, it will be without exception the finest barge canal in the world. The barges using it will have a capacity of some 35,000 bushels of wheat, and will afford a very cheap means of transportation, so cheap that our present Welland-St. Lawrence Canals would be utterly unable to compete with it. Even as compared with the present 6-foot Erie Canal, navigated by barges scarcely one-fourth the capacity of those that will ply in the New Erie, the advantage which our 14-foot Welland-St. Lawrence system has is so slight that a few years ago the imposition of a trivial toll of one-half cent per bushel and an almost insignificant tonnage tax turned the scale against us. As the cost of transportation by the New Erie will be certainly not more than two-thirds the present charge, it is evident that for Canada to stand still or even to hesitate would be suicidal; for it must not be forgotten that our rivals have and probably always will have a very substantial advantage in cheaper ocean freights and lower insurance.

—(Toronto Board of Trade Pamphlet.)

The history of the former Welland Canal enlargement proves beyond doubt that further enlargement will increase

the strength of American competition, as we are obliged, under existing treaties, to give the United States its free use on equal terms with ourselves.

If, as stated, the 14-foot Welland Canal can barely hold its own against the antiquated 6-foot Erie Canal, and would be "utterly unable to compete with" the new 12-foot Erie Canal, it is equally clear that the 14-foot St. Lawrence Canals cannot compete with a 12-foot Erie Canal from Oswego, as the big American freighters will be able to use our enlarged Welland free of cost, which will lengthen their lake voyage, and save over 120 miles of canalling as compared with the Buffalo route, while the canalling on the Canadian route will not be reduced at all.

And if the 14-foot St. Lawrence Canals are unable to compete with a 12-foot waterway via Oswego, what will be their position if a 21-foot, or even a 30-foot channel is opened from that port to the Hudson, as proposed by the United States Deep Waterways Commission and the Superintendent of Public Works for New York State?

It may be true that the present Welland-St. Lawrence route "would be utterly unable to compete with" the new Erie 12-foot canal, but it is freely admitted by the Americans themselves that the Georgian Bay Canal will be more than able to compete with it. Following are a few opinions:—

American Opinions.

New York Herald:

"No effective competition with this route appears in "any way possible. When in operation, the Buffalo route "will be hopelessly outclassed, and the St. Lawrence will "then solve and control the transportation conditions of "the continent."

The Chicago American:

"The proposed Georgian Bay Canal, if placed in "operation, will deprive the United States of millions of "tons of freight annually, and deeply affect our markets."

The New York Sun:

"The actual transportation distance from the Soo to "New York by way of Lake Erie and the Erie Canal is "about twice as great as that from the Soo to Montreal, "via the projected Georgian Bay route. It is estimated "that the cost of transporting wheat to tide-water would "be reduced by at least 2½ cents per bushel. Between "this route and its 21 feet of navigable depth, and the "$101,000,000 gutter across New York State, the odds, as "a business enterprise, are emphatically in favor of the "Georgian Bay Canal."

Edward Hungerford, in Harper's Weekly:

"There is no question in the minds of the men who "have examined this Georgian Bay Canal proposition as "to the effect its completion will have on the decreasing "commercial supremacy of New York. It will cripple the "elevators at Buffalo and proclaim the Erie Barge Canal "the most atrocious and expensive farce yet placed on the "backs of the greatest of all the States. It will of itself "provide the direct and simple water route for the grain "of America's golden West to the densely populated "nations of Europe."

Herbert Quick, Author & Expert Writer on American Waterways:

"When Canada has completed the Georgian Bay Ship "Canal, she will destroy American commerce from the "lakes to the sea, and the death knell of our merchant "marine on the lakes will have been sounded."

R. Isham Randolph, Secretary of the Internal Waterway Improvement Commission of Illinois, in the Chicago Record Herald:

"While we have been agitating the question of a "south-end outlet from the Great Lakes to the seaboard, "Canada has quietly gone ahead and spent nearly "$750,000 in making surveys and preparing plans, esti- "mates, and a report upon an eastern outlet to the sea that "is shorter, cheaper, and more direct than any other. It "is a pretty safe assumption that the great bulk of lake "freight destined for the seaboard, will take the shortest, "quickest route over which it can go, cheaper than by any "other route because it can be shipped from any lake port "to the seaboard terminal without breaking bulk. The "situation of the Georgian Bay Canal gives it a decided "advantage over all other waterways leading to an ocean "port."

New York Engineering News:

"From an engineering standpoint, disregarding for "the moment political boundaries, there can be no doubt "that the Ottawa route is by far the best for a deep "waterway from the upper lakes to the sea. So far as "export traffic from the North-West to Europe is con- "cerned, it offers by far the best possible route."

J. A. Latcha, in North American Review:

"While our wheat supply comes from Dakota and "Minnesota, Minneapolis can control the milling business. "But the day a great ship canal is built from the ocean "to the British North-West will see the milling interests "removed to the Canadian side of the river, destroying the

"Minneapolis milling business just as certainly as that of "Rochester was destroyed by the development of our "Western wheat fields."

If this were not conclusive enough evidence of the feeling of Americans in the matter, we have the official proposal made by Mr. Stevens, the Superintendent of Public Works for the State of New York, in 1908, to meet the competition of the Georgian Bay Canal by abandoning the 12-foot Erie Canal from Buffalo to Syracuse, and constructing a 21-foot waterway, from Oswego to the Hudson. The following is quoted from the Senate Documents of the State of New York for that year:—

American Proposal to Offset the Georgian Bay Canal.

"At the inception of the barge canal the purpose was "to restore to New York the traffic which had been taken "away as the result of a better system of Canadian canals. "The barge canal may be suited to compete with the pre- "sent type of Canadian canals, but the Dominion Govern- "ment has foreseen the need of a different type, and has "undertaken to supply it in the so-called Ottawa-Georgian "Bay route. Canada, in the race for commerce, must be "dealt with as a rival. The simplicity of the Georgian "Bay Canal route, taken in conjunction with the methods "which that government applies to the solution of any "project to enhance the glory of the Dominion, threaten, "if they do not ensure fully, the completion of this water- "way before the barge canal under the present system of "construction can be completed. Commerce once lost "under such conditions, if not forever lost, would be hard "to regain. Your honorable body (the New York Senate) "should, therefore, without delay memorialize Congress "to join with New York in making that portion of the "barge canal from the Hudson River by way of the Mo- "hawk River, Oneida Lake, and Oswego River a ship "canal of type contemplated in the government surveys "of 1900. The cost to the State woud not be greater than "will be the cost of the lesser waterway, and the benefits "to result not only immediate, but for the future a "hundredfold. If this plan can be brought to fruition, it "is my belief that not only would New York be in a com- "manding position so far as commercial shipments go in "the event of the completion by the Dominion Govern- "ment of the Georgian Bay Canal, but it is not impossible "that, if the construction of the ship canal across New "York State were authorised in the near future, the con- "struction of the Georgian Bay Canal would be abandoned "altogether for the time being."

The report goes on to state that once this is done the importance of the link between Lake Erie and Lake Ontario (which was estimated by the Deep Waterways Commission to

cost $42,500,000) is so great that the completion of that portion of the scheme may safely be left to the Federal Government.

The enlarged Welland, however, being open to free use by American vessel owners on equal terms with our own, would relieve them of any immediate necessity for expenditure on this portion of the work and leave them free to carry out the remainder of the plan, viz.: a deep waterway from Oswego to the Hudson River.

Would it be a rational answer for Canada to make to this challenge to enlarge the Welland Canal at an expense of $40,000,000 or $50,000,000, practically presenting the United States with that part of the project left by Mr. Stevens to the United States Federal Government, and neglect construction of the Georgian Bay Canal, the national Canadian route, the competition of which is so feared by Americans?

Must Provide for Needs of the Future.

"It is, then, absolutely essential that Canada's canal system shall be able, by reason of its capacity and speed, to carry grain to tide-water more cheaply and advantageously than will be possible by the New Erie. It is not necessary here to more than state this, for as to it there is practical unanimity of Canadian public opinion. As has been said, standing still or even delay would for Canada be suicidal. The first would mean that not a bushel of all the teeming harvests of the future North-West would find its way to the world's markets by Canadian waterways or in Canadian vessels. To hesitate would allow our neighbors to obtain a commercial advantage that it would be difficult for us to overcome—impossible to surmount entirely. The new Canadian water-route must be in every way superior to the Erie, and it must be completed as soon or nearly as soon. As the Erie will be the best barge canal in the world, ours must be the best fresh-water ship canal."

—(Toronto Board of Trade Pamphlet.)

This is a very strong argument for the Georgian Bay Canal. An enlarged Welland alone will only serve to increase the strength of American competition. Enlargement of the St. Lawrence canals through to Montreal cannot be completed for many years to come. As a matter of fact, as proposed, it is practicable only as an international work, and before even preliminary steps can be taken, there must be an international agreement with the United States, covering—

1.—Method of construction and control of the necessary works.

2.—Respective rights of the two governments as to water-powers, and regulation of flow and levels of the St. Lawrence.

3.—Arrangements with regard to use of water for navigation and power purposes.

Moreover, the St. Lawrence route, improved as proposed, will be of international character, involving the sacrifice of independent national control of our waterway to the seaboard.

The Georgian Bay Canal is entirely under Canadian jurisdiction, and can be completed in from seven to ten years.

And as already pointed out, any solution of the waterway problem to be worthy of the name at all must provide for much more than the grain traffic.

THE VARIOUS PLANS PROPOSED.

"There are three projects proposed, and the Canadian people, or the Government and Parliament acting for the people, must choose between them. These projects are:—

The Welland Improvement Alone.

"(1) To immediately deepen and enlarge, shorten and improve the Welland Canal sufficiently to permit the passage from Lake Erie to Lake Ontario, in the shortest time practicable, of the largest vessels now navigating or likely to navigate the lakes.

The Welland-St. Lawrence.

"(2) To do this and likewise to correspondingly improve the St. Lawrence Canal system so as to allow the passage of these vessels to Montreal without breaking bulk.

The Georgian Bay Canal.

"(3) To construct a 22-foot ship canal from the Georgian Bay to Montreal by way of the French River, Lake Nipissing, and the Mattawa and Ottawa Rivers."

It is not a question of choice between the projects named. There can hardly be a doubt that the St. Lawrence-Welland waterway will, at some time or other in the future, be enlarged as a matter of international convenience. The real and only question is—Can Canada afford to neglect or even postpone for a single year the opening of the strictly national route via the Ottawa waterway, which will ensure her commercial independence and give her enormous advantages on the Great Lakes, as well as opening up new avenues of inter-provincial commerce which no other route can afford?

No matter what international arrangements are eventually made with regard to the St. Lawrence, and whether Canada constructs a deep waterway on that route at her own expense or joins with the United States in the necessary improvements, it would appear to be commonsense policy to first secure national interests by the possession of the independent route through our own territory, of which the New York Engineering News says:—

"There should be deep water navigation between the "Atlantic and the Great Lakes, but the place of all others

"where it should be constructed is from Lake Huron to "Montreal via Lake Nipissing and the Ottawa River. This "is not only the shortest route, but the cheapest to build. "Had such a route existed within the United States it "would have been canalised long ago, having 20 to 24 feet "navigation. That depth already exists over nine-tenths "of the route, or more, and the rest could be added "cheaply, the conditions being favorable for doing so."

Sectional Considerations Should not Decide.

"All these schemes have their supporters and advocates; sectional interests and the supposed advantages which would accrue to certain localities influencing, to some extent, the arguments and contentions of each. The matter ought not, however, to be discussed in a sectional spirit. Certainly it should not be decided except upon the highest national grounds. Whichever scheme will most certainly, having proper regard to probable cost, accomplish the national and imperial objects aimed at, should be adopted quite regardless of sectional demands. For Parliament to decide the matter upon any lesser grounds would amount to a betrayal of trust."

—(Toronto Board of Trade Pamphlet.)

This is the crux of the whole matter.

Canada requires a strictly national waterway from the lakes to the sea, subject only to the control of our own government, free from all problems connected with development of international water-powers, and the regulation and control of international waters, secure from any diversion of traffic to a foreign country en route to the seaboard, ensuring the export trade of the Canadian West to Canadian seaports, and such as will best serve to build up inter-provincial traffic in the commodities which are suitable for water carriage, viz.: ores, iron and steel, coal, pulpwood, pulp, paper, lumber and grain, and which form 97% of the traffic of the Great Lakes.

Hon. R. L. Borden struck the keynote when he said: "Our object is to keep Canadian trade in Canadian channels, and to continue as much as we can the policy of making the trade run east and west."

The chief thing is to develop inter-provincial commerce. And not merely between Ontario and Manitoba. The interests of Quebec and the Maritime Provinces must also be considered.

Nova Scotia at Confederation was promised an Ontario market for her coal. She has never had it, owing to lack of transportation facilities.

Such appeals and veiled threats as the following, which appeared in the Kingston "Standard," a day or two after the last election, are to be deprecated:—

> "Now that we have, or shall soon have, a Conservative "Government at Ottawa, we may expect some attention to "be paid to the demands of the Province of Ontario, that "province which has given Mr. Borden so sweeping a "majority, for the building of a new Welland Canal. We "were put off by the Laurier Government with nothing but "promises; and what else could be expected when Laurier "was spending all his time in devising means that would "enrich and build up his own province of Quebec? Ontario "has been the milch cow of Confederation too long. She "must have her wants looked after, and one of these, and "not the least of these, is a new Welland Canal."

The development of our national waterways is too important a subject to be made a matter of party politics or a subject of sectional squabbles.

Welland Improvement Alone Insufficient.

"It is not necessary, perhaps, to discuss the first-mentioned project at any great length. The immediate improvement of the Welland Canal without a corresponding betterment of the St. Lawrence system would no doubt prevent our neighbors from obtaining a substantial advantage over us by reason of the early completion of the Erie Canal. Possibly also it might meet the requirements of North-West wheat transportation for some years to come. Ocean-going vessels do not carry exclusive grain cargoes, only taking partial cargoes when better-paying freight is not offered. Perhaps, then, grain stored in elevators at Kingston or Prescott ready for prompt shipment to Montreal by barges might be sufficiently convenient. At any rate, it may be said with confidence that even without the improvement of the St. Lawrence system our present 14-foot canals there would more than hold their own in competition with any 12-foot barge canals connecting Lake Ontario with the Erie system. But as a permanent and final solution of Canada's canal problem this would be incomplete and ineffectual."

—(Toronto Board of Trade Pamphlet.)

No one will question the statement that "as a permanent and final solution of Canada's Canal problem" the immediate improvement of the Welland Canal without a corresponding betterment of the St. Lawrence system, "would be incomplete and ineffectual."

It has, in fact, been forcibly urged by Mr. Robert Reford, Chairman of the Transportation Commission of 1904, that enlargement of the Welland without making the St. Lawrence

of uniform depth, would be a crime against Canada, in that it would strengthen rather than decrease American competition, and would open the way to serious diversion of trade by a deep waterway from Oswego to the Hudson.

That it would "prevent our neighbors from obtaining a substantial advantage over us by reason of the early construction of the Erie Canal" is open to very grave doubt. In fact, the history of the former enlargement of the Welland Canal affords the strongest possible evidence to the contrary.

It is a matter of public record and common knowledge that Canada's trade by the St. Lawrence route to Montreal was smaller in 1900 than it was in 1871, although the enlarged Welland had then been open for traffic for eighteen years. The late Thos. Munro, C.E., engineer of the St. Lawrence Canals, wrote as follows:—

Statement of Thos. Munro, C.E.

"More than half of the tonnage which passes east "through the Welland Canal is between U. S. and U. S. "ports, and one of the chief benefits which this enlarge- "ment has so far conferred upon commerce is to permit of "a line of American propellers being profitably established "between Chicago and Ogdensburg. This trade in 1871 "amounted to 772,756 out of a total of 1,478,122 tons. In "1880, just before the opening of the new canal to a 12- "foot draught, it had been diminished to 176,605 tons. "Since the opening of the Welland, and the increase of "draught to 14 feet, this trade has steadily grown until "in 1893 it was 631,667 tons, representing three-quarters "of the agricultural products which were moved on the "canal in that year, and about half its total tonnage."

We are at a serious disadvantage on the Great Lakes. The navigation laws bar our vessels from nine-tenths of the present traffic. Our coasting trade is about one-thirtieth of the whole. International trade on the lakes furnishes about one-fifteenth of the entire traffic. Of this American vessels carry about two-thirds, and Canadian vessels the remaining one-third. The United States has several hundred vessels on the lakes larger than present Welland Canal size, which a larger Welland will enable to come down to Lake Ontario. Deepening of the Welland alone merely transfers the competition to Lake Ontario. Any advantage we gain is more than offset by its enabling the large American freighters to extend their trips from 200 to 250 miles farther east. And by its reducing the canalling on the Erie route about 125 miles, without making any reduction whatever in the canalling on the Canadian route.

To say that "possibly it might meet the requirements of North-West wheat transportation for some years to come" and "perhaps grain stored in elevators, etc., might be sufficiently

convenient'' is not highly convincing, to say the least. Surely Canada cannot afford to spend thirty or forty million dollars on any scheme for the sake of ''possibly'' or ''perhaps'' meeting requirements temporarily. We believe every thinking Canadian will agree that the solution must be both effectual and permanent to be satisfactory.

The writer of the pamphlet evidently felt that he was skimming over thin ice in asserting that the Welland enlargement would even temporarily meet requirements of Canadian trade satisfactorily, but in the next sentence considers that he has reached firm ground once more: He says:—

"At any rate, it may be said with confidence that even without the improvement of the St. Lawrence system, our present 14-foot canals there would more than hold their own in competition with any 12-foot barge canal connecting Lake Ontario with the Erie system."

How can this statement be reconciled with the one a few sentences back?:—

"Even as compared with the present 6-foot Erie Canal, navigated by barges scarcely one-fourth of the capacity of those that will ply in the new Erie, the advantage which our 14-foot Welland-St. Lawrence system has, is so slight that a few years ago the imposition of a trivial toll of one-half cent per bushel and an almost insignificant tonnage tax turned the scale against us."

If our present 14-foot Welland-St. Lawrence system is barely able to compete with the antiquated 6-foot ditch called the Erie Canal, and cannot possibly compete with the new 12-foot Erie Canal, how can the 14-foot St. Lawrence Canals compete with a 12-foot canal from Oswego, which will be nearly 150 miles shorter than the Erie Canal? And if it cannot compete with a 12-foot canal from Oswego, what will be the position if the United States constructs a 21-foot or even a 30-foot canal from Oswego to the Hudson?

And not only did the United States Deep Waterways Commission report as follows:—

> ''It appears from the investigations of the Board that ''the most available route for a 30-foot waterway from ''the lakes to the sea is from Lake Ontario to the Hudson ''River via Oswego and the Mohawk Valley on the low ''level plan, and that the same route is practically as ''favorable as any for a 21-foot waterway. This route ''alone will be considered.''

but the Superintendent of Public Works of New York has already officially recommended to the State Senate that a ship canal should be constructed from Oswego to the Hudson, and even advised that the New Erie Canal to Buffalo be abandoned altogether in favor of this project, as the only way in which the construction of the Georgian Bay Canal by Canada can be met.

"The Georgian Bay Canal project finds its strongest and most earnest supporters in Montreal, in Ottawa, and along the proposed route—perhaps it is not mis-stating in any degree to say that it finds its only support there. For though it has been repeatedly stated in Parliament that the Georgian Bay Canal is one of the 'demands of the West,' Mayor Hopewell of Ottawa is authority for the statement that the deputation of Western farmers who visited Ottawa some time ago almost to a man declared that they wanted no Georgian Bay Canal. However, it is not of the first importance to know who support or who oppose, or even what may be the motive inspiring the support or opposition. The consideration that should influence and decide is, What is best?"

Support of the Georgian Bay Project.

—(Toronto Board of Trade Pamphlet.)

The mis-statement would amount to deliberate untruth. The support of the Georgian Bay Canal has been nation-wide for years past; no public work in Canada has ever been more generally endorsed.

To go no further back, in 1876 Hon. Alexander Mackenzie, Member for East York, stated:—

> **"The very first year I was in Parliament, I was one of "a Committee appointed to investigate the question of "canal navigation on the Upper Ottawa, and from that "time I have been perfectly satisfied that the Valley pre- "sents the greatest facilities of any route upon the con- "tinent for the transportation of the products of the "North-West to the Atlantic ocean, or rather, I should say, "to the head of Atlantic navigation."**

From that time to the present the route has had the endorsation of many leading public men of Canada. In the past few years the parliamentary representatives of over 150 constituencies, including majorities in all the provinces excepting British Columbia, Alberta and Saskatchewan, have petitioned the Government to proceed with work on the Georgian Bay Canal, and it has been endorsed by over 250 public bodies in every part of the Dominion.

The statement attributed to Mayor Hopewell is untrue. No such declaration was ever made, nor did Mayor Hopewell make such an assertion. There was, no doubt, a local feeling in some sections of the west, that they wanted the Hudson Bay Railway first. Now that work is assured, it will be found, as proved by numerous resolutions sent to Ottawa, that the North-West wants the Georgian Bay Canal as well. The North-West wants every available outlet for its trade, to meet the enormous demands already arising.

CLAIMS MADE FOR GEORGIAN BAY PROJECT.

"Briefly and succinctly, but with sufficient exactness, the claims put forward in support of the Georgian Bay route may be stated as follows:—

"(a) It will be shorter than any other route—282 miles less than the Welland-St. Lawrence route, and 424 shorter than the Erie.

"(b) It will be faster by from a day to a day and a half than the present Welland-St. Lawrence route, besides having an enormously greater carrying capacity.

"(c) By damming certain rivers and creating certain reservoirs at the summit, 540 cubic feet of water per second can be obtained, sufficient to pass 24 vessels per day, or 5,040 per season, through the canal, and by a further system of dams and reservoirs at an additional expenditure of $900,000 an additional 700 cubic feet per second can be obtained.

"(d) By the construction of the canal one million horse-power can be developed, and this is valued at $5 per horse-power, or $5,000,000 per year.

"(e) The canal can be completed and ready for navigation in ten years from the time of commencement, at a cost of $100,000,000.

"(f) The size of the lock chambers is to be 650 feet long by 65 feet wide, and the depth of water on the sills is to be 22 feet.

"(g) The proposed route will be entirely within our own territory, and, in case of a war with the United States, free from danger of attack."

—(Toronto Board of Trade Pamphlet.)

This very imperfect statement of claims is hand-picked to suit the purposes of the writer, which is to make a damaging showing for the Georgian Bay Canal, and is carefully framed so as to create false impressions in several very important respects. This is particularly the case with clause (c), which is skillfully drawn to mislead as to the very important points of capacity and water supply of the waterway.

As to clause (f), the size of locks is merely recommended, not fixed, by the report.

GEORGIAN BAY CLAIMS ANALYZED.

Practical Vesselmen have not Endorsed.

"These statements are in accord with the report of the Government engineers, and the claims made are borne out by the report. It is significant, however, that though the scheme has the endorsement, as to its feasibility, of the three Government engineers, it has not yet received the endorsement or approval of practical vessel-men having experience of lake and canal navigation."

—(Toronto Board of Trade Pamphlet.)

It is admitted that the claims made for the Georgian Bay Canal, are borne out by the report of the engineers, but an

attempt is made to discredit the engineers' ability and judgment.

It should not be forgotten that their main conclusions as to the advantages of the Georgian Bay Canal, have had the fullest endorsement by engineers of world-wide reputation, such as the late George Y. Wisner of the United States Deep Waterways Commission of 1897-1900, and others who were associated with such works as the Manchester Ship Canal in England, the North Sea Canal in Germany, and the Danube River works in Austria.

It is untrue that the report has not had the approval of vessel-men experienced in navigation.

Endorsement by Captain Norcross.

The report states: "The following questions were thoroughly discussed with Captain Norcross of the Wolvin fleet, one of the most experienced captains on the lakes. The fact that Captain Norcross is practically in charge of the fleet owned by the Messrs. Wolvin of Duluth, shows the high esteem in which he is held, and great weight is attached to his opinions relating to lake transportation. After full discussion of the questions put to him, he was kind enough to give in brief form his answers in writing." And the answers of Captain Norcross follow. His general approval is summed up in the statement:—

> "If this canal is built according to the ideas suggested "to me by the engineers, it would be possible for a "steamer to make the round trip from Port Arthur to "Montreal, and back to Port Arthur, returning without "cargo, in fifteen days, allowing four days to discharge "at Montreal."

Other vessel-men have also approved the route. A Chicago firm have even stated that they would establish a direct line of boats to ply between Chicago and Rio de Janeiro by the Georgian Bay Canal, when it is open for traffic.

Would it Solve Canada's Canal Problem?

"Assuming that all the calculations of the engineers are as accurate as the data at their command would allow, and assuming that all the claims are honestly made, it would still remain to be determined whether this scheme would meet Canada's requirements and secure for the Dominion that position of supremacy as regards lake, river and canal transportation which is our natural right. To arrive at a correct answer to this question it will be necessary to examine, seriatim, the claims above set forth in the light of known facts and positive information.

Shorter on the Map; Longer Commercially.

"(a) On the map the proposed canal is 282 miles shorter than the Welland-St. Lawrence route; but is it commercially shorter? Will vessels using this route have a shorter or a longer distance to cover, having regard to where they must secure return cargoes, without which profitable freight carrying is not possible? With the exception of package freight, (1) comparatively little of which would be obtainable at Montreal, (2) and practically none along the route of the canal, the only available cargo for grain-carrying vessels is coal. Since coal as a rule is a dollar per ton dearer in Montreal than at Lake Erie ports, it is evident that none would be shipped by way of the proposed canal. Vessels using the route would, therefore, have to return empty through the canal and go down to some Lake Erie port for a return cargo. In other words, the proposed canal, though geographically 282 miles shorter than the Welland-St. Lawrence route, is commercially fully 1,300 miles longer. What chance would vessels so handicapped have in competition for the grain-carrying trade with rivals sailing direct to Buffalo with assured return cargoes awaiting them?"

—(Toronto Board of Trade Pamphlet.)

The claim that although the Georgian Bay Canal is nearly 300 miles shorter than the present water route, it is commercially 1,300 miles longer is an absurdity. The situation on the present route is that four-fifths of the return cargo available for Canadian grain boats, is American coal. And it must be admitted that there is very little, if any, prospect of improvement in this respect. Package freight will not afford a sufficient return traffic. In fact, there was a falling off in this trade through the Welland Canal last year.

We have, therefore, the anomalous situation that the success of Canada in carrying grain east at low rates, and, practically, the existence of her merchant marine on the Great Lakes depends on our being able to obtain return cargoes of an American product.

The Toronto Board of Trade are apparently prepared to accept this state of affairs as inevitable, although it places our carriers on the lakes at a serious disadvantage, and is inimical to the commercial independence of Canada.

The way out is the construction of the Georgian Bay Canal which will permit Canadian coal to be carried to the head of the lakes without breaking bulk.

That coal is dearer at Montreal than at American ports on Lake Erie is no evidence at all against the possibility of Canadian coal being sold in competition as far West as Port Arthur given cheap transportation by water by the most direct route. The American ports on Lake Erie are distributing points, Montreal a consuming point. The price at Montreal is fixed by competition with American coal from Lake Erie. Add

to the price at the Lake Erie port 53 cents per ton duty, and the freight by water to Montreal, and you have the price which the Nova Scotia coal producer must meet to retain the trade.

In the same way, the price at Fort William exceeds that at American lake ports practically by 53 cents a ton duty, the lake freight of from 30 to 35 cents a ton, and terminal charges —roughly about one dollar per ton. In 1909 American coal sold at record low prices; in fact, a large bulk of the coal moved, did not pay cost of production and transportation without allowing anything at all for its value in the ground. Prices of steam coal of similar grade to that of Nova Scotia in Chicago were from $2.95 to $3.20 a ton. The wholesale price in Montreal was $3.60. The duty of 53 cents per ton would fully account for the difference between Montreal and Chicago prices.

If the Georgian Bay Canal were available, vessels could deliver coal at Port Arthur as cheaply as at Montreal, and could meet the competition of American coal as successfully at that point as at Montreal. The reason being, that they would in that case carry eastbound as well as westbound cargoes. Coal vessels from Sydney to Montreal return light. Taking sixty cents as the cost of carriage of a ton of coal to Montreal, a 7,000 ton vessel would earn on a trip of 1,668 miles, taking say 120 hours, $4,200.00. If, instead of stopping at Montreal, she could proceed through the Georgian Bay Canal to Port Arthur, and load a return cargo of wheat for carriage to the seaboard, on which 3¼ cents a bushel freight was paid, her earnings would be as follows:

Actual time of travel:		
Sydney to Montreal	60	hours
Georgian Bay Canal	70	"
French River to Port Arthur	35	"
Detention at Sault, say	2½	"
	167½	"
Return	167½	"
	335	"
Earnings:		
7,000 tons of coal at 60 cents		$4,200
230,000 bus. of grain at 3¼ cents		7,475
		$11,675

Say, $11,675 for 334 hours, which would give her practically the same earnings for time travelled.

It costs six cents a bushel, or more, to carry grain from the head of the Lakes to New York. If a through traffic in

carriage of coal westward from Nova Scotia is established via the Georgian Bay Canal and the colliers carry grain as east-bound cargo delivering it in elevators, say at Louisburg, on the Atlantic coast, the following advantages will be gained:—

1. Cost of transportation to ocean port cut in two.

2. Delivery at a port 700 miles nearer to Liverpool.

3. Lower terminal charges than at New York.

4. Bunker coal at lower prices than at New York, which could be taken on while grain was being loaded.

5. Accessibility to tramp steamers from the whole Atlantic coast of the United States, and from the Panama Canal route.

6. A port open the year round.

This would be an enormous advantage to the grain trade of Canada, without interfering at all with the trade of the port of Montreal, which is of special character.

A west-bound traffic in coal can be developed to many points along the route of the Georgian Bay Canal. The Ontario Government Railway, and all the Canadian transcontinental railway systems, excepting the Grand Trunk Pacific, cross the waterway, and large sections of all the through roads and many branch lines can be supplied with Canadian coal to advantage, by it.

Build up Nova Scotia Coal Trade.

To talk, therefore, of vessels passing through the Georgian Bay Canal and going to American ports on Lake Erie to load coal for the head of the lakes, is arrant nonsense. Instead of that, it will enable Canada to build up her own coal-carrying trade, and relieve the Province of Ontario from a very dangerous form of dependence on our neighbors to the south. Besides which, it will distribute in Nova Scotia some of the millions of dollars that this province now sends annually to the United States for coal, and thus not only add to the national wealth, but create valuable inter-provincial commerce.

Coal is not the only possible west-bound traffic on the Ottawa route. Pulpwood and lumber are both available. Pulpwood from Quebec ports to Lake Erie is now the most important west-bound traffic of the Welland Canal. A few years ago it was even shipped westward to supply Michigan and Wisconsin mills. The Georgian Bay Canal would not only be available for pulpwood from the lower St. Lawrence, but there are large supplies to be had in the Ottawa Valley.

Lumber and forest products, other than pulpwood, are, outside of grain, the most important source of traffic on Canadian canals at the present time. In 1911 this trade on the Ottawa canals amounted to 202,797 tons. The opening of lake

markets to this trade will no doubt create some westward movement of this class of freight.

Then there are ores, minerals and other raw materials natural to the country traversed.

The possibilities of Northern Ontario and Quebec are yet unknown. But enough is known to make it evident that ores will play an important part in the traffic of the Georgian Bay Canal.

Lastly, as to manufactures.

The existence of 1,000,000 h.p. of available water-powers directly on the route, close to supplies of raw materials, on a main artery of traffic to and from the heart of the continent, crossed by all the principal railway lines of the country, puts it beyond question that the Georgian Bay Canal will develop a large trade along this line.

Opinion of W. F. Tye, C. E.

Mr. W. F. Tye, President of the Canadian Society of Civil Engineers, is of opinion that the water-power alone would justify construction of the Georgian Bay Canal. In a paper last year, he stated:—

> "The construction of the Georgian Bay Canal will "develop a very large amount of water-power. It is con- "servatively estimated that the Ottawa and its tributaries "will give 3,000,000 horse-power, equivalent in power "requirements to the mining of 40,000,000 tons of coal per "annum. This water-power, unlike coal, can never be "exhausted, and with the rapid depletion of the coal and "iron in the United States, and with the enormous horse- "power of the Ottawa and its tributaries, and the low "grade ores of the Ottawa Valley, it is easily possible "that in the years to come the great manufacturing centre "of this continent may be transferred from the Ohio "Valley to the Ottawa. There is no reason why it should "not if the people of Canada have the enterprise to make "it so. For such reasons as this I believe that the construc- "tion of the Georgian Bay Canal is a national necessity. "I do not mean to say that the construction of the Georgian "Bay Canal will at once transform the Ottawa Valley into "a great manufacturing centre, but it will make it pos- "sible, as, with abundance of iron ore, abundance of the "cheapest and best power in the world, with a deep "draught canal permitting ocean freighters to penetrate "into the heart of the Ottawa Valley, there seems to be no "reason why it should not become in time as great a manu- "facturing district as any in the world."

With these great sources of supply of traffic, coal, ores, lumber, pulpwood, and manufactures on the route, it is worse than childish to talk of vessels from the Georgian Bay Canal

going to Lake Erie ports for return cargoes of American coal.

We have devoted considerable space to this matter of return cargoes because it is a matter of national importance. The question resolves itself into this—Shall Canada continue in her present state of dependence on the United States for the coal supply of her central provinces, paying an annual tribute of over $25,000,000 to the United States, and risking the whole future of her carrying trade on her ability to secure return cargoes of coal from the United States? Or shall she, by constructing the Georgian Bay Canal, develop her own mines and other natural resources, distribute large sums at home now sent abroad for a necessity of existence, increase her commercial independence, develop inter-provincial trade, and place her carrying trade from the Great West to the Atlantic on a more stable and satisfactory basis?

"(b) It will be as well, perhaps, to allow the engineers who put forward this claim to give the answer to it:

Admittedly no Saving in Time of Transit.

"With the advantage of shorter distance between terminal harbors, it is computed that the route will be from one to one and a half days faster than any other existing water route, under present conditions, from the head of the Great Lakes to an ocean port, apart from having an enormous superiority as to carrying capacity. But as compared with a possible improved system of St. Lawrence Canals to a depth of 22 feet, assuming that the number of locks would be greatly reduced and some of the channels widened, probably no practical benefit in time of transit could be claimed, the saving in distance being nearly offset by the longer stretches of lake and wide river navigation which would exist through the Lake Erie and Lake Ontario route, where higher speeds would be permissible."

—(Toronto Board of Trade Pamphlet.)

The lack of any real argument against the Georgian Bay Deep Waterway is clearly shown by the frantic efforts made to show, through misrepresentation that though nearly 300 miles shorter than the present route, there will be no saving in time of transit.

The quotation from an interim report given is deliberately misleading, because in their final report the engineers, after further study, modified the statement here made.

The only saving in time effected by the improvement of the present route would be that due to reduction of number of lockages, and this in any case would still leave the balance in favor of the Georgian Bay Canal.

The gain in time of transit by the Georgian Bay Canal over the present system of from one to one and a half days on each

trip, and over an improved Welland-St. Lawrence route of at least several hours on each trip has, however, never been seriously urged as a reason for construction of the Ottawa Waterway.

The crucial point is that all traffic on the Georgian Bay canal will go to a Canadian seaport, whereas a large share of the traffic on the present route is now, and always will be, diverted to New York. Even if there were no gain at all in point of time of transit, this fact alone would make the Georgian Bay Canal a national necessity.

Speed Claimed Impractical.

"It is evident, then, upon the admission of the engineers who put forward the claim of greater speed, that the route would be not one minute faster than an improved Welland-St. Lawrence route. Even the claim they make is founded upon the highly problematical assumption that an average speed can be maintained greater by a mile an hour than in the Suez Canal, where there are no locks, and half a mile greater than is practicable in the Manchester Canal. Practical vessel-men, whose experience in lake and river navigation entitles their opinions to weight, say that an average speed of six miles per hour through such a channel would be utterly impossible; that one-half or even one-third of that speed would be all that could be maintained with any degree of safety. When it is borne in mind that the proposed route would be crooked and tortuous, with 120 curves, some of them of three degrees, that a large part of the route would be canalized river, requiring great care and caution, and that during a great part of the season fogs are frequent on the course, it is at least likely that the vessel-men rather than the engineers are right. These practical men also say that it is very dangerous to run vessels at night, and that the necessarily high insurance rates would be a serious if not a prohibitive addition to the cost of navigating such a canal."

—(Toronto Board of Trade Pamphlet.)

The claim of the writer of the pamphlet in this paragraph is built up on an indefinite statement in an interim report, which was corrected in the final report.

As the engineers have, in their final report, with the better knowledge gained by further investigation, withdrawn the statement made in their interim report, the conclusion based on it falls to the ground.

Comparison with the Suez and Manchester Canals can only be made with intention to deceive.

346 out of the 420 miles of the Ottawa route are open lake and river, over much of which speeds of 10 and 12 miles an hour can be maintained. As a matter of fact, on the sections already navigated, vessels have been safely run with that

speed for many years past. A fair standard of comparison with this 346 miles, would be the St. Lawrence River from Kingston to Montreal, and the Detroit, St. Clair and St. Mary's Rivers, which form part of the Great Lakes system and are navigated by thousands of vessels yearly. The report of the engineers expressly states that conditions on the restricted river sections, will be equal in every respect to the inter-lake channels. These facts are clearly set forth in the government report. The attempt to delude people into the belief that the so-called Georgian Bay Canal is for its entire length a canal channel, comparable with the Manchester Ship Canal, is, therefore, deliberately dishonest.

It is fair to assume that the opinion of practical vesselmen referred to, was obtained from men who were misinformed as to the true character of the Ottawa Waterway, or had personal interests adverse to the adoption of this route. As to curves, there are upwards of 90 on the present route between Montreal and the head of the lakes, some of them more dangerous than any on the Georgian Bay Canal, as projected. The report states:—

> "There are 116 curves, of which 77 are of about one "mile radius, and the remaining 39 of about half that "radius."

The report of Captain Norcross, of the Wolvin fleet, to the Department, with regard to a curve on the present route, shorter and more dangerous than any of those proposed, is as follows:—

> "Q.—The Stribling Point bend at the foot of Sugar Island "is the sharpest on the lake route, Duluth to Buffalo. "Do you consider it safe to navigate this bend day "and night?
>
> "A.—I do. The fact that all our largest vessels are in the "habit of navigating the Sault Ste. Marie River day "and night, and have never yet had an accident on "this bend, assures us that it is perfectly safe. This "would also apply to the bend at the Sailor's Encamp-"ment. The only accident that ever occurred at this "point was caused by defective steering gear.
>
> "Q.—These bends are made more difficult by a cross-"current, are they not?
>
> "A.—Yes."

As to speed, he is quite clear:—

> "Q.—What is the speed at which lake boats pass in "dredged channels from 200 to 500 feet wide?
>
> "A.—Boats can safely travel six miles an hour in dredged "channels 200 to 300 feet wide. In a channel 500 "feet wide, they would travel full speed."

There are on the Georgian Bay Canal only 28 miles of canal cuts, 200 to 300 feet wide, and 66 miles of improved river channels, 300 feet wide. The remaining 346 miles of the route consists of free and open river and lake channels, 300 to 1000 feet wide and more.

The dangerous fogs of the Ottawa route exist only in the minds of its opponents. There are as many hours of fog in Toronto harbour during the season of navigation as at any point on the entire route. When practical men assert that "it is very dangerous to run vessels at night," we must take their word for it, but we had always supposed that night occurred on other routes as well as the Ottawa.

The cheap and abundant water-power along the Ottawa and French Rivers will make it possible to so light the entire channel that navigation can be continued night and day without interruption.

There has never been offered by anyone a jot of evidence that insurance rates on the Ottawa route will be any higher than on the present route.

Insurance Rates.

The official record of casualties on inland waters kept by the Department of Marine shows that the heaviest losses are caused by storms on the Great Lakes. A technical publication dealing with the lake traffic for 1909 says:—

> "Although traffic on the lakes is suspended during "the most stormy months of the year, wrecks during the "past season cost more than 100 lives, and the money "damage amounted to $2,000,000. The trouble seems to be "two-fold: storms arise on the lakes more quickly than on "the ocean, and lake vessels are not so strongly built as are "the craft that navigate the Atlantic."

The Georgian Bay Canal will greatly lessen the exposure of vessels to lake storms, as it altogether avoids Lake Erie, the shallowest of the lakes and the one most subject to violent fluctuations, and the insurance rates would probably be if anything lower than by the present route.

Proposed Canal would not meet Future Requirements.

"Assuming the calculations of the engineers to be correct, the utmost possible capacity of the canal would be the passing of 11,550 vessels in any season, and this when every available drop of water has been brought into use. Now, 20,899 vessels have passed through the Soo canals in one year, and the traffic on the Great Lakes is still in its infancy: it is, therefore, evident that the proposed canal would be utterly inadequate to transport the freight that we may with reasonable confidence expect will seek its way to the seaboard within a very few years.

—(Toronto Board of Trade Pamphlet.)

This statement is absolutely false. The engineers reported on two plans for the summit, viz.:—

1. To use Trout Lake as the summit level, and

2. To lower Trout Lake and maintain Lake Nipissing eight feet above low water level, thus creating a summit reach 68 miles in length. Both these plans were declared feasible, the latter costing, however, $10,000,000 more than the former.

1.—SUMMIT SUPPLY ON THE TROUT LAKE LEVEL.

On page 159 of the Report it is stated that "there would be about 1250 cubic feet per second available for canal purposes continually throughout the open season, or more than sufficient to supply the summit, were the locks to be doubled and each the size of the Canadian Ship Canal at Sault Ste. Marie."

7972 vessels passed through the Canadian Sault Lock in 1910, and the capacity of the lock was not reached. The Poe lock at the Sault passed 8372 vessels in 1910.

It is clear from these figures that even on the Trout Lake summit there is ample water for a larger traffic than stated. In the protest of the Canadian Government against the diversion of water by the Chicago Drainage Canal, it is stated that "the claim that more than 1000 cubic feet per second is required for purposes of navigation, cannot be maintained." If it is true that not more than 1000 feet per second is necessary for the operation of a ship canal at Chicago, then 1250 cubic feet per second must be sufficient on the Georgian Bay Canal.

NIPISSING SUMMIT LEVEL.

2. If the alternative Lake Nipissing summit be adopted, the summit water supply is increased to at least 8000 to 9000 cubic feet per second, which is more than could possibly be required, even if double locks were constructed along the entire route equal in size to those at the Canadian Sault, and all operated to their full capacity. The capacity of the route under these circumstances would not be less than from 50,000,000 to 75,000,000 tons per annum.

To base any estimate of "the freight that we may with reasonable confidence expect will seek its way to the seaboard within a very few years" on the fact that 20,899 vessels have passed through the Sault Canals in one year, betrays either gross ignorance or deliberate intention to deceive. Of these 20,899 passages, 2692 were by vessels under 100 tons register, with an average register of 36 tons. The total freight carried was 62,363,218 tons. Of this 94% was carried by American, and only 6% by Canadian vessels. 41,600,386 tons was Ameri-

can iron ore, and 13,854,883 tons American coal, making together 88% of the total traffic. This was purely a local Great Lakes trade chiefly between American ports. 56,173,709 tons was American coasting trade. In addition to this about 1,400,000 tons of American coal were carried to Canadian ports to the head of the Lakes in American vessels, and 850,000 tons in Canadian vessels. This makes 93% of the total traffic at the Sault, which would not in any case use either the Georgian Bay or the St. Lawrence route to Montreal. The only traffic seeking the seaboard was such part of the following items as was not intended for local consumption:—

Carried in American Vessels—

	Tons.
From American ports to Canadian ports	
On Lake Huron	132,060
On Lake Erie	6,800
On Lake Ontario and Eastward	53,364
From Canadian ports to American ports on Lake Erie	645,145

Carried in Canadian Vessels—

From Canadian ports to American ports	
On Lake Huron	84,407
On Lake Ontario	102,120
From Canadian ports to Canadian ports	
On Lake Huron	1,003,418
On Lake Erie	79,386
On Lake Ontario and Eastward	680,201
From American ports to Canadian ports	
On Lake Huron	290,513
On Lake Ontario and Eastward	74,662
Total	3,152,076

As a considerable portion of this was for local consumption in Ontario, it will be seen that less than 5% of the total traffic of the Sault Canals in 1910 can be fairly described as "seeking its way to the seaboard." Grain shipments from both the American and Canadian West amounted to only 4,166,859 tons, a little over 6% of the total traffic. The Canadian shipments of grain were considerably below this mark.

The Canadian grain shipments from the head of the lakes in 1911 were 65,622,481 bushels. This would represent 328 cargoes of 200,000 bushels each. The greatest quantity of wheat and flour ever exported from the United States by all routes in any one year was 234,772,515 bushels in 1902, and of oats 69,130,288 bushels in 1898. Assuming that the Canadian North-West shipments to the Atlantic seaboard double the

entire maximum export trade of the United States, the traffic would then represent 3,000 cargoes of 200,000 bushels each.

With the Panama Canal route and the Hudson Bay route both available, an increasing demand by the United States, and the likelihood that mixed farming will in many districts of the North-West supersede wheat raising, an estimate of 600,000,000 bushels export to the Atlantic seaboard would appear to allow for growth of North-West traffic for a long time to come. While we have undoubtedly a great country in the North-West, and the traffic to and from the Great Lakes will be a most important one for Canada, it is better to preserve some show of sanity at least in statements dealing with the subject, and to stick to facts as they are, instead of hand-picking mis-leading figures.

As to Possible Power Development.

"(d) The horse-power which it is estimated would be developed by the construction of the canal would be less by at least one-half than that which would be certainly developed by the improvement of the St. Lawrence Canals, while owing to proximity to market the latter would have greater commercial value. Commercially, it will be impossible to find a market for anything like a million horse-power in the projected Georgian Bay Canal route for some generations. Niagara power companies, including both sides of the river, are only producing to-day 300,000 horse-power, which is distributed over a large section in Canada and the United States."

—(Toronto Board of Trade Pamphlet.)

Three out of four statements of paragraph (d) are inaccurate. About 1,000,000 horse-power will be developed on the Georgian Bay Canal route. To this must be added the enormous powers of the Upper Ottawa, and of tributary streams. Mr. W. F. Tye, C.E., President of the Canadian Society of Civil Engineers, says it is conservatively estimated that the Ottawa and its tributaries will give 3,000,000 horse-power.

While the report of the Commission of Conservation estimates the power possibilities of the regulated St. Lawrence River at about 2,000,000 horse-power, it must not be forgotten that over half these powers are international, and the United States would own a large share of them. At the Long Sault Rapids, with 618,000 horse-power possible development, 96% of the flow of the river is in United States territory. There is a vital difference between the water-powers to be developed by dams on the St. Lawrence and on the Ottawa. The latter will be strictly under national control, and subject entirely to the jurisdiction of Canadian courts; the former must, from their situation, be in large measure under international control. In case of differences arising between power and navigation in-

terests, these would necessarily be subject to settlement by some form of international tribunal, opening wide the door for international difficulties.

If it would be impossible to find a market for the 1,000,000 horse-power generated by the Ottawa River, it would be equally, if not more, impossible, to dispose of those on the St. Lawrence. The St. Lawrence powers are situated on the border line of the Dominion, where, at the very best, they are barred from one-half the surrounding territory, both for supplies of raw material and markets. But there will be market in Canada for 1,000,000 horse-power in a very short time. Over 1,000,000 horse-power had been actually developed in Canada in 1910, and water-power development and use are in their infancy.

The commercial value of the Ottawa River powers will exceed that of the St. Lawrence powers. The Ottawa Valley will supply an enormous amount of raw material to the Ottawa River powers, which will be able to draw from the adjacent territory on both sides of the stream, and the location of the powers directly on the main line of both rail and water traffic between east and west will make their facilities for reaching markets unsurpassed. As stated in the Report of Surveys:—

> "The construction of the canal will furnish one of the "principal reasons for the development of the powers, by "giving cheap transportation both for the raw material "and the finished product.
>
> "Ideal sites for the locating of flour mills for milling "in transit will be available, and no doubt many other "manufacturers will be attracted by the combination of "cheap power and transportation. The powers will be "still better adapted for the manufacture of paper and "pulp, with a waterway to both the American and Europ-"ean markets."

We have already cited the opinion of Mr. W. F. Tye, C.E., President of the Canadian Society of Civil Engineers, that the development of water-power alone renders the Georgian Bay Canal a national necessity and that the Ottawa Valley may as a result of its construction become the greatest manufacturing centre on the continent.

And as to the importance of these powers to the province of Ontario, the following statement was made by Hon. Adam Beck, Chairman of the Ontario Hydro-Electric Commission,

before the Railway Committee of the House of Commons, in January of this year:—

> "The Ottawa River must be the backbone of the "supply of electricity to the Province of Ontario. We are "limited on the St. Lawrence by treaty obligations, and "we must depend on one great source of supply—the "Ottawa."

It might further be pointed out that not only will the Province of Ontario benefit by the development of these powers, but the advantage will be equally shared by the Province of Quebec.

Time and Cost of Construction.

"(e) Practical men do not agree with the engineers that the construction of such a canal would be possible in ten years, and say it would probably take twenty, or possibly thirty; but, assuming that the engineers are right, it is evident that even then the work could not be completed until our neighbors would have been given a six or seven years' monopoly of the water-borne traffic. In view of Canada's past experience of the relation borne by estimated cost to actual expenditure in the construction of public works, the engineers' estimate of $100,000,000 does not inspire confidence.

—(Toronto Board of Trade Pamphlet.)

This is a false alarm.

"Practical men" is a pseudonym often adopted by men who offer an opinion without any knowledge of the subject under discussion, and have not the courage to attach their names to their statements. The name of even one practical man would give such an assertion some weight. Without that, it is, at least, open to doubt whether anyone with the least knowledge of the facts ever said such a thing.

On the other hand, there is strong evidence to the contrary. The late Geo. Y. Wisner, C.E., who was for upwards of thirty years engaged on some of the largest hydraulic works on the Continent, who, as a member of the United States Deep Waterways Commission, had made a special study of the subject, and who was employed to investigate the Georgian Bay Canal project, stated that the work could easily be completed in seven years. One of the largest contracting firms in England, who have had many large contracts in various parts of the world, and who constructed a portion of the Manchester Ship Canal, have made proposals to the Government to execute the work, and they are ready to undertake to complete it in that time or less.

Insinuation is here taken for argument. If the experience referred to is that of the National Transcontinental Railway, it

must be remembered that no preliminary surveys had ever been made. In the case of the Georgian Bay Canal, we have detailed surveys made by qualified engineers, and these are largely corroborated by previous and independent surveys made by the engineers of a company.

There are two specific instances of works of similar nature undertaken in Canada in recent years, viz., the completion of enlargement of the St. Lawrence Canals under the late Hon. A. G. Blair, as Minister of Railways and Canals, and the construction of the lock and dam on the Red River by the Department of Public Works. In both these cases, the preliminary estimates of the engineers were close to the actual cost of the completed works.

The Panama Canal has been eight years under construction by the American Government. During that time they have excavated 168,486,884 cubic yards of material, or nearly four times the entire quantity involved in the building of the Georgian Bay Canal. This work has been done in the presence of climatic and other difficulties which do not exist in Canada. Sanitation of the canal zone alone has cost about $20,000,000. And yet, although the canal was not expected to be completed until January 1st, 1915, we are now assured that it will be open for traffic during the latter half of 1913.

The completion of the Georgian Bay Canal in seven years or less is merely a matter of money and organization. The longest period estimated to be necessary for construction of any section, is five years, and the conditions are such that work can be carried on simultaneously all along the route.

On the other hand the only alternative to the construction of the Georgian Bay Canal and that endorsed by the Toronto Board of Trade in their pamphlet, is the opening of a deep waterway all the way from the lakes to the seaboard on the St. Lawrence-Welland route.

Delays Incidental to St. Lawrence Improvement.

Even if it is assumed that all the international problems connected with such a work can be settled satisfactorily to Canada, the negotiations for such purpose must necessarily occupy considerable time before we would even be in a position to decide upon the character of the work to be undertaken and its location in national or international waters. The making of preliminary surveys, which in the case of the Georgian Bay Canal are already completed, would take several years more. Then, as it is a work in any case of probably double the magnitude and cost of the Georgian Bay Canal, it would require at least double the time to construct that the Georgian Bay Canal will. What renders this statement a certainty, is that the St. Lawrence-Welland route being our only water outlet for the traffic from the Great Lakes, provision must be made to meet the requirements of commerce while the work of enlargement

is going on. This would necessarily render the progress of the work slow, just as has been the case with the New Erie Barge Canal.

Special legislation was passed providing that while work on the Erie Canal is in progress, canals upon which the work is actually being done shall not be opened for navigation earlier than May 15th, and shall be closed on or before November 15th, thus materially shortening the period during which the Erie Canal, being located farther south than the St. Lawrence and the port of Montreal, could be kept open. All contracts let on the Erie Canal are subject to the necessity of maintaining navigation between May 15th and November 15th in each year; and this necessity for maintenance of navigation has been found to materially delay the progress of the work, as stated in the reports of the Superintendent of Public Works of New York State.

Georgian Bay Canal Construction will not Interfere with Traffic.

No Canadian national system of deep canals on the St. Lawrence River can be constructed so as to be free from the delays arising from this cause. The work on the Georgian Bay Canal, however, necessary for construction of a deep waterway, is so distributed over the entire distance of 440 miles, and so located in relation to railways, that it can be carried on simultaneously along the entire route, and continued both in winter and summer without any hindrance whatever, and during its construction Canada will enjoy free and unhampered use of her present canal system.

During the last enlargement of the Welland and St. Lawrence Canals, Canada's traffic by that route to the port of Montreal was at a stand-still for upwards of thirty years.

Injury to Trade by former Welland-St. Lawrence Enlargement.

The total traffic of the Welland Canal (which covered the through shipments east to Montreal) were 1,478,122 tons in 1871, and 1,506,484 tons in 1873. Owing to the enlargement they did not reach the same figure again until 1907—seven years after the completion of the through 14-foot waterway to Montreal; and it may be said without fear of contradiction, that it is only within the past five years that Canada has begun to reap the fruits of that enlargement, which was begun over forty years ago.

A repetition of this disastrous experience can be prevented only by having the Georgian Bay Canal open to take care of the traffic, during the work of St. Lawrence Canal enlargement.

"(f) The estimated cost of the proposed canal is for a canal of the dimensions stated, and the limited available supply of water at the summit would make a larger one impracticable; but vessels are now navigating the Great Lakes too large to pass through such a canal, and the tendency is to build larger rather than smaller vessels in the future."

Locks too Small for Future Requirements.

—(Toronto Board of Trade Pamphlet.)

The statement that limited available supply of water at the summit would make a larger canal impracticable, is entirely false. Both the government and company engineers report that it is quite feasible to make a summit reach 68 miles in length with Lake Nipissing as the source of water supply. In this case there would be available the entire flow arising from the watershed of Lake Nipissing, amounting to about 8000 cubic feet per second.

A report of the United States Army Engineers, quoted in the brief of the Canadian Government in its protest against diversion of water from the Great Lakes for a ship canal from Chicago to the Mississipi River, says:—

> "The claim that more than 1000 cubic feet per second "is required for purposes of navigation cannot be main- "tained."

If 1000 cubic feet per second is ample for a ship canal of similar dimensions at Chicago, evidently the existence of more than eight times that amount on the summit level of the Georgian Bay Canal ensures a plentiful supply of water for any size of waterway likely to be required for centuries to come.

The statement that vessels are now navigating the Great Lakes too large to pass through the Georgian Bay Canal as proposed is also untrue.

The locks proposed by the government engineers would be 675 feet long and have 22 feet of water on the sills. Those proposed by the canal company would be of larger dimensions, and have 24 feet of water on the sills.

The size of lake vessels is now limited by the depth of water available in the Canadian Sault lock, which was during a great part of the season of 1911 less than 18 feet. Maximum length of freighters according to the Sault Canals Report for 1910 was 607 feet, and draft 19 feet. The number of boats using the Sault Canal was 877. Of these, 811 were of a registered tonnage of 5000 tons or less, and they carried nearly 50,000,000 out of a total of 62,363,218 tons of freight. Only three vessels out of 877 were of greater registered tonnage than 6000 tons, and these large vessels carried only one per cent. of the total freight. Moreover the largest vessels are built for the special purpose of carrying ore from the Lake Superior mines to Lake Erie.

The entire paragraph, therefore, is based on untruth, and is misleading in the extreme.

An Illusory Claim.

"(g) The claim made under this head is illusory to say the least, for the reason that, no matter what route may be chosen, the important link at the Soo must necessarily be on the international boundary.

—(Toronto Board of Trade Pamphlet.)

The prospect of a war with the United States is very remote, and no stress has ever been laid on this argument by advocates of the Georgian Bay Canal. Yet the value of the Georgian Bay Waterway in any scheme of national defence is beyond question, and the importance of possession of a protected route at a distance from the boundary, giving access to the Great Lakes, cannot be doubted.

In this connection it may be pointed out that a national blunder is being made at the Sault, by allowing the international channel to fall into disuse, and diverting all Canadian traffic through United States waters via the Hay Lake Channel. Circumstances might arise which would lead to the closing of that channel to Canadian vessels by the United States, an action which would at once cripple our commerce. The only safe national policy for Canada is to maintain her own channels from the head of the lakes to the Atlantic, independent of the United States, thereby preventing possible friction, and leaving no weak points to be taken advantage of.

THE WELLAND-ST. LAWRENCE ROUTE.

"It now remains only to consider the improvement of the Welland-St. Lawrence route; that is, the immediate deepening and enlarging of the Welland Canal to allow of the passage through it of the largest vessels now navigating or likely to navigate the lakes; a corresponding improvement of the St. Lawrence canals to follow immediately, or, if it be practicable, to be carried out conjointly.

"These questions suggest themselves:

"(1) Is such a commodious canal system practical?

"(2) Is its cost reasonably within the sum that Canada may wisely expend to ensure her independence in the matter of water routes to her seaboard?

"(3) Would it certainly ensure this independence?

"(4) Would the national benefit from its construction and maintenance be great enough to justify the expenditure of the money it would cost?

Sound Public and Business Policy.

"Sound public policy demands that all these questions shall be carefully and dispassionately considered. Canada has had a sufficiency of public works constructed to appease sectional clamor, to influence votes or to reward party service. Unless this project can be justified upon the ground of national necessity, and unless its business sound-

ness can be shown, it ought not to be undertaken. But if the questions propounded above can be answered in the affirmative, Parliament ought not to hesitate, but arrange for the immediate commencement and vigorous prosecution of the work."

—(Toronto Board of Trade Pamphlet.)

The questions propounded must not only be answered in the affirmative, but there must be reasonable evidence offered to justify the answer. Unless this evidence is clear, ample, and satisfactory, then all must agree that the work proposed is one which requires further study and consideration before the country is pledged to it.

Practicability Unquestionable.

"Is the scheme a practical one? Though the engineers have not finally reported, enough is known to make it certain that there are no insuperable or even serious engineering difficulties to overcome. The water supply is sufficient and inexhaustible. The first question may be safely answered in the affirmative."

—(Toronto Board of Trade Pamphlet.)

Surely no pamphlet written on so important a subject ever shewed such lamentable gaps between its promise and performance. The solution of the problem under discussion is stated on the first page to be "essential to our commercial independence, and without it even the preservation of the political union of the Provinces and the maintenance of our position as an integral part of the British Empire would become difficult to the verge of impossible."

The question is raised—"Is such a commodious canal system practical?", and the principle laid down that it "shall be carefully and dispassionately considered." After all this laboring of the mountains, what a ridiculous mouse is brought forth in this paragraph!

"Though the engineers have not finally reported"—Why say this unless to deceive? The writer well knew that no engineers have made or are making any such investigation. How could there be any final report when there is no survey? The only surveys for a St. Lawrence Deep Waterway were made by the engineers of the United States Deep Waterways Commission, and were for a system of canals in United States territory as far down as Lake St. Francis. On the Canadian side no survey has been made and practically nothing is known as to either cost or engineering difficulties.

The writer, however, with a sublimity of nerve which must be admired, settles the question in the affirmative with a stroke of the pen.

Let us "carefully and dispassionately" look at a few of the facts involved.

There is a vast difference between a work being physically practicable and practical. The physical possibility of a deep waterway on the St. Lawrence is beyond doubt.

But the nature of our rights to construct works on the route at all must be first considered. The St. Lawrence is international water. From Lake Ontario to the head of Barnhart's Island, the United States is joint owner of the stream. At that point, the steamboat channel through the rapids passes into American territory. And a little lower down crosses the international boundary again and runs through Canada to the ocean. On the upper stretches we cannot interfere with existing water levels without the consent of the United States. On the reach south of Barnhart's Island, we have no rights save such as are granted to us by the United States under the Ashburton and Boundary Waters Treaties.

And from the point where the river crosses the international boundary line into Canada, it must, by the terms of the Treaty of Washington, "forever remain free and open for the purposes of commerce to the citizens of the United States."

Reverting to these sections separately:—

EAST TO THE HEAD OF BARNHART'S ISLAND.

The question of maintenance of water-levels is a serious one. A number of years ago we deepened and enlarged the channel through the Galops Rapids, thereby lowering the level of the upper River. But that was in the ante-conservation period. Any interference with existing levels would now be a subject of protest by the United States. One of two methods of improvement must be adopted:—

1. The canals in our own territory must be enlarged, without interference with existing levels, or

2. Dams must be placed at the rapids, creating deep slackwater stretches similar to those proposed on the Ottawa River.

The objections to the former method are:—

1. Owing to the swift and shallow stretches between the present canals, the length of the canals on the route must be materially increased. As we have now over 46 miles of canal on the St. Lawrence River, this would make the length of canals on this section alone, nearly double that on the whole Ottawa route.

2. Physical difficulties and heavy cost of such enlargement where recourse must be had to earth embankments, or deep cuttings in earth.

The difficulties of maintaining embankments on the Cornwall Canal are well known and led a few years ago to the abandonment of several miles of the original canals.

3. The serious interference with traffic for a number of years which would be caused by enlargement.

During the former enlargement, there was an actual falling off in Canada's through trade to Montreal during a period of thirty years from 1871 to 1901. It is only since the latter date that the St. Lawrence Canals have begun to play any important part in the trade of the country.

The alternative plan of dams creating slack-water stretches has been proposed by Mr. Holgate, C.E., and General Bixby of the United States Army Engineers.

The objections from a Canadian point of view are:—

1. The dams west of Cornwall being international, Canada would sacrifice independent control of the waterway from the lakes to Montreal.

2. Any conflict between water-power and navigation interests would be subject to international arbitrament.

3. Diversity between United States and Canadian interests on the route would tend to friction. It is our interest to bring the lake traffic to Montreal. That of the United States is to divert it through American channels to New York at some higher point, either via an Oswego waterway to the Hudson, via Ogdensburg by rail, or from Lake St. Francis by canal to the Hudson. The United States would be most interested in power development, Canada in navigation facilities.

THE LONG SAULT REACH.

South of Barnhart's Island the St. Lawrence Channel is in the United States. It was stated in evidence before the International Waterways Commission that 96% of the flow of the river at this point is through American territory.

A proposal has been made by an American Company to erect a dam to develop the water-power and to provide a lock for navigation purposes. The proposal is objectionable because—

1. The lock would be on United States soil, which would destroy Canada's control of the entire system.

2. The tourist traffic on the St. Lawrence would be killed.

From Lake St. Francis east, the river, though entirely Canadian is still subject to treaty rights of the United States. Their right of descending the rapids with passenger steamers

cannot be taken away, excepting by international agreement.

To sum up the whole matter, then, we are in the position of joint owners of the St. Lawrence, and our rights are restricted by international law and treaty obligations. Before we can make any move, it must be clearly ascertained whether we are to join with our neighbours in an international scheme, and if not, just what we can do without consulting the United States.

Until the international problems involved are finally settled, and some definite scheme of improvement consistent with our national rights on the route is outlined and investigated, it is clearly futile to assert that a deep waterway on the St. Lawrence is physically practicable.

Any Probable Cost would be Justifiable.

"In the absence of the engineers' report the probable cost cannot be stated with any degree of positiveness. It has, however, been estimated that to deepen and improve the Welland Canal so that it will not be a mere make-shift meeting only the needs of today or the near future, but a deep, safe, roomy waterway insuring Canada's supremacy for all time in the matter of water-borne inland traffic, may cost from forty to fifty millions. It should be the best fresh-water ship canal in the world, for it will carry more commerce than any other excepting only the Soo Canals."

—(Toronto Board of Trade Pamphlet.)

Instead of the promised "careful consideration," a mere shifty evasion of the whole question.

It is true that in our present state of entire ignorance of the whole matter, "the probable cost cannot be stated with any degree of positiveness."

All that can be positively said is that we know nothing about the probable cost, and can know nothing until some plan, consistent with our rights on the St. Lawrence, is outlined, and thorough preliminary investigation made.

The only statement on the subject of cost from any reliable source, is that of the late Geo. Y. Wisner, of the American Deep Waterways Commission, before a Committee of the Dominion Senate. Mr. Wisner, from his knowledge of the surveys made by the Commission, gave it as his belief that a Welland-St. Lawrence Deep Waterway would cost about double as much as the Georgian Bay Canal.

Consistency is a jewel. A few paragraphs back it was stated that the improvement of the Welland Canal without a corresponding betterment of the St. Lawrence system "as a

permanent and final solution of Canada's canal problem, would be incomplete and ineffectual."

This frank admission was not only justifiable but inevitable. But, even at a cost of forty or fifty million dollars, the deepening and improving of the Welland will not "insure Canada's supremacy for all time in the matter of water-borne inland traffic." If it would, there would be no room for further discussion, and no necessity for further enlarging the St. Lawrence Canals. But the Board of Trade admits it to be a mere temporary makeshift. And the evidence is clear to every fair-minded Canadian that it will not only benefit the United States more than Canada but that if the Welland is enlarged without a corresponding enlargement of the St. Lawrence Canals, American competition will be keener and the comparative position of Canada worse than at present.

Would Positively Insure our Commercial Independence.

"That this project would certainly ensure Canada's independent control of her waterway to the seaboard is beyond question. Every part of the route is either entirely within her own territory or absolutely free to her use. Vessels with more than ten times the capacity of the barges that will ply on the New Erie will be able to load at Fort William, Port Arthur, Duluth, or any northern port, and pass directly to Montreal without breaking bulk, and the cost of transportation will be so much less than by the American route that it will more than offset the advantage which that route has in cheaper ocean freights and lower insurance charges.

—(Toronto Board of Trade Pamphlet.)

Another sample of "careful consideration."

This is the very point with regard to which the gravest doubt exists, and the writer instinctively shys from it.

The project of international dams proposed by Mr. Holgate and Gen. Bixby would not only not ensure Canada's control of her waterway to the seaboard, but it would deprive her of the control she now has.

Then there is a vast difference between a route being within our own territory or being absolutely free to our use. The Long Sault reach of the St. Lawrence River is in United States territory, but is free to our use under treaty. Whether it will always remain so is another question.

No matter how positively it is asserted that "this project would ensure Canada's independent control," etc., the evidence and the facts of the case all point in the other direction. And even if we control the waterway, it will not follow that we can control the commerce for which it is presumably built. We control the present 14-foot canal system, but are unable by its

means to prevent diversion of Canadian grain through the antiquated six-foot ditch to the Hudson River, known as the Erie Canal.

Ignoring all this, however, the writer settles the whole matter in his own mind by asserting—very positively again—that cost of transportation would be so low by the improved St. Lawrence as to offset American competition.

That is the gist of the whole question.

No atom of evidence is offered to support the statement, which the Canadian people are asked to blindly accept.

Fears of Diversion of Traffic without Foundation.

"It has been argued that the Americans could tap this route at Oswego or Syracuse, and by the construction of a ship canal divert the trade to New York. Those who say this do not take into account the fact that a Board of Engineers appointed by the State of New York, after a careful and exhaustive examination of the route, reported that such a scheme is impractical, and that no greater depth than 12 feet can be maintained in the Hudson between Coxackie and the State dam at Troy. Their new 12-foot barge canal is, therefore, the last word our neighbors can say. Indeed, so evident is it to them that the St. Lawrence offers the only practical way from the Great Lakes to the sea for vessels of deep draft (and their public men and engineers of national repute have given the matter more earnest consideration than it has obtained in Canada), that it has been proposed by such men as Senator Townsend, Chairman of the Senate Committee on Coast and Insular Survey, and by General Bixby, Chief of U. S. Army Engineers, that the United States Government should offer to share with Canada the cost of deepening and enlarging the route.

—(Toronto Board of Trade Pamphlet.)

The Americans can tap the St. Lawrence route even more successfully at Oswego than at Buffalo.

The 12-foot Erie Barge Canal from Buffalo to Troy, is 352 miles long. The United States will, in any case, have a barge canal from Oswego to Troy only 204 miles in length.

There will thus be a saving of 148 miles of barge canalling through the Erie Canal on every cargo of grain carried to New York, without any corresponding reduction on our side.

Then again the main dependence for return cargo at Buffalo is anthracite coal. Oswego is ninety miles closer than Buffalo to Scranton, the centre of the anthracite coal district. In spite of the fact that large freighters cannot come down to Lake Ontario, Oswego already shipped about 250,000 tons of anthracite west in 1911. Buffalo's shipments were over 3,000,000 tons.

In 1910, 632 American steam vessels used the Sault Canal. Their average registered tonnage was 2,559 tons, and they carried 54,295,567 tons of freight, an average of 85,910 tons to each vessel.

Canada had 118 steamers employed with an average registered tonnage of 1,067 tons, and they carried 3,744,185 tons of freight, an average of 31,730 tons to each vessel. The average freight cargo of steamers passing down the Welland Canal in 1910 was 1,628 tons. The American lake fleet of large freighters trading through the Sault was as follows:—

Number of Vessels	Cargo Capacity. Tons.
79	2,000 to 3,000
105	3,000 to 4,000
29	4,000 to 5,000
23	5,000 to 6,000
45	6,000 to 7,000
76	7,000 to 8,000
73	8,000 to 10,000
84	10,000 to 12,000
23	12,000 to 14,000
537	

The possession of this enormous fleet of large vessels, and of almost an entire monopoly of the ore and coal carrying trade, Canadian vessels being practically debarred from nine-tenths of the present lake traffic, no matter what may be the depth of our canals, nor on what route they may be constructed, gives United States carriers an overwhelming advantage over Canadian vessels.

American Gains from Welland Enlargement.

Enlargement of the Welland, then, will give the Americans the following important advantages:—

1. It will admit to Lake Ontario this enormous fleet of upwards of 500 large American freighters, and extend to that lake the keen competition now so seriously felt by Canadian carriers on the Upper Lakes.

2. It will increase the length of haul of these large American freighters equally with that of Canadian vessels.

3. It will reduce by 148 miles the canalling through the New York State barge canal on every grain cargo carried east.

4. It will enable American freighters to load American anthracite coal as return cargo ninety miles nearer the mines than at Buffalo, thereby saving the rail haul on every west-bound cargo to that extent.

Canadian vessels, on the other hand, will gain merely the increased length of haul in large freighters. The point of trans-shipment will be merely changed to Kingston instead of Port Colborne, and our net gain will be simply the difference in cost of carriage between those points in large freighters, and in vessels of Welland Canal size.

It is clear that, under these circumstances, the chances of cargoes going through to Montreal will be materially reduced below what they are at present.

AMERICAN SHIP CANAL FROM OSWEGO.

The statement that

"A Board of Engineers, appointed by the State of New York, after a careful and exhaustive examination of the route, reported that such a scheme (a deep waterway from Oswego to the Hudson) is impractical, and that no greater depth than 12 feet can be maintained in the Hudson between Coxackie and the State dam at Troy"

is untrue.

The Committee on Canals of New York State, appointed in 1899 by Governor Theodore Roosevelt, which recommended the 12-foot Barge Canal, reported that—

"The project of a ship canal to enable vessels to pass from the Upper Lakes to New York city (or beyond) without breaking bulk is a proper subject for consideration by the Federal Government, but not by the State of New York."

And they gave as one of their reasons that there were then no data which would enable anyone to give even an approximate estimate of its cost.

No Board of Engineers for the State of New York has made either an examination or report, for the reason stated by the Committee, that it was considered a matter for action by the Federal Government. But in 1900 the United States Deep Waterway Commission, appointed by the Federal Government, made a report on the route after exhaustive examinations. Their conclusion on page 125 of their report is as follows:—

> "It appears from the investigations of the Board that "the most favorable route for a 30-foot waterway from "the lakes to the sea, is from Lake Ontario to the Hudson "River via Oswego and the Mohawk Valley on the low "level plan, and that the same route is practically as "favorable as any for a 21-foot waterway. This route "alone will be considered."

And in 1908, the Superintendent of Public Works of New York State proposed as a means of heading off construction of the Georgian Bay Canal by Canada that the new Erie Canal between Buffalo and Syracuse be abandoned, and a ship canal

constructed from Oswego to the Hudson. His proposition has already been quoted from the New York Senate Documents on page 8 of this pamphlet.

The question of maintenance of depth in the Hudson was fully considered by the Deep Waterways Commission, and their approved line enters the Hudson River at Normans Kill, eleven miles below the State Dam at Troy. Reporting on this subject, they stated on page 81 of their report:—

> "Below Albany the river is susceptible for easy im-
> "provement for a depth of 30 feet, but will probably be
> "expensive to maintain for depths of over twelve feet.
>
> "The adoption of Norman's Kill as part of the
> "Oswego-Mohawk route eliminates the worst features of
> "the Hudson River improvements from the proposed route
> "and leaves that part of the project easy to construct."

In view of the depths of water in the harbors and channels of the Great Lakes the Board finally recommended the adoption of a 21-foot channel throughout.

Considering the perfect feasibility of the proposed waterway, its great advantage to the port of New York, the present deep interest of the United States Federal Government in improvement of internal waterways, and the decided advantage to the scheme of an enlarged Welland, it may be regarded as highly probable that that project will be revived and put into execution within a very short time after commencement of work on the Welland enlargement.

The development of internal waterways of the United States is now a prominent plank in the platform of both great political parties.

It is equally clear, then, that not only will the United States gain substantially by the enlargement of the Welland, even with the 12-foot barge canal from Oswego to Troy, but that it will save them at least $50,000,000 on the cost of the ship canal from Oswego to Troy, proposed by the Deep Waterways Commission, and endorsed by the Superintendent of Public Works of New York State.

It is only natural that prominent Americans, seeing that if Canada constructs a strictly national waterway on the direct route, known as the Georgian Bay Canal, American interests are likely to suffer, should come forward with the suggestion that the St. Lawrence should be improved as an international work. The chief objections to this plan have been noted on page 37.

Estimates as to Probable Cost.

"Optimists and pessimists will be wide apart in their answers to the fourth question. The one will dream dreams of ocean liners sailing the lakes, of the wheat of the North-West being carried from Thunder Bay to Liverpool without trans-shipment, and of every harbor on the lakes transformed into an ocean port; the other will see nothing but failure and loss of the money invested. It were better to be a dreamer than a croaker, perhaps, but in this case it is better still to be neither. The question is a business one, to be answered in a cool-headed, business-like way. Cost and advantages must bear a reasonable relation to each other in order to justify the construction of any public work. As to cost, we have, as has already been said, no definite data as yet. The United States Senate Committee on Coast and Insular Survey has estimated the cost at $150,000,000. As this estimate provides for a complete waterway from the head of the lakes to the sea, overcoming the St. Lawrence rapids by a series of ponds, and deepening the lakes and harbors by dams at the foot or otherwise, and as it contemplates the providing of such a waterway that no further improvement will ever be necessary, the sum named may not be excessive, and it is as well to consider the highest estimate.

"Assuming, then, that the cost might reach this figure, what advantages may fairly be placed on the other side of the sheet?

—(Toronto Board of Trade Pamphlet.)

The flow of language in this paragraph serves rather poorly its purpose of concealing entire lack of information on so important a subject.

What does anyone know as to the cost of a deep waterway on the St. Lawrence River, in Canadian waters? Simply nothing.

So the mind of the reader is befogged with what optimists and pessimists might possibly think, with fanciful speculations as to the dreaming of dreamers and croaking of croakers, a remarkable conclusion that common sense is really necessary in considering the expenditure of one or more hundreds of millions of dollars, and finally a pure assumption, based on nothing in particular.

If it be true that the United States Senate Committee on Coast and Insular Survey has estimated the cost at $150,000,000, its so-called estimate was a mere guess hazarded at a venture without detailed information other than that supplied by the surveys made by the United States Deep Waterways Commission for a series of canals located in United States territory from Ogdensburg down to Lake St. Francis.

Of what value is their estimate to Canada in arriving at a solution of her national waterways problem?

Hon. Chas. Townsend, United States Senator for Michigan, who is Chairman of the Committee mentioned, on July

24th, 1911, moved the following resolution in the American Senate:—

"Resolved, That the President be, and he is hereby "respectfully requested to enter upon negotiations with "Great Britain or the Dominion of Canada, with a view to "an international agreement for the concurrent or co-"operative improvement of navigation in waterways used, "or which can be used, in common for the commerce of "Canada and the United States."

Note the expression—"waterways used, or which can be used, in common for the commerce of Canada and the United States." This would clearly apply to the Sault Canal. The United States coastwise traffic through the Canadian Sault Canal in 1911 was 25,506,750 tons, while our own coastwise traffic through our own canal was only 2,230,168 tons, less than 9 per cent. of that of the United States.

It would apply also to the Welland Canal. United States coastwise traffic through the Welland in 1911 was 485,355 tons, and our own coastwise traffic, 1,146,156 tons. While the preponderance was in our favor with the present 14-foot Welland, it will speedily shift to advantage of the United States as soon as the Welland is deepened to 22 feet or more, for the following reasons:—

The deeper canal will—

1. Give access to Lake Ontario, for the immense American lake fleet of over 500 large lake freighters.

2. It will enable American freighters to bring down grain cargoes to Oswego instead of Buffalo, and thereby reduce the canalling on the Erie Barge Canal from 352 to 204 miles.

3. United States anthracite coal can then be shipped westward from Oswego which is ninety miles closer to Scranton than Buffalo is.

4. It will open the way for construction of the proposed ship canal from Oswego to the Hudson River.

But how about the St. Lawrence? The United States coastwise traffic on the St. Lawrence Canals in 1911 was 206 tons, against a Canadian coastwise traffic of 1,716,189 tons.

It is clear that no matter what depth of canals there may be on the St. Lawrence, the interest of the United States will be to divert traffic to New York via Oswego, rather than to allow it to proceed to the port of Montreal. The prospect of any international agreement with regard to the St. Lawrence is, therefore, to say the least, very dubious. And if such an agreement were to be made, Canada could never become a party to construction of canals in American territory. There-

fore the estimate of a United States Senate Committee, based on such an assumption, is entirely worthless. For a Canadian waterway on the St. Lawrence no surveys have ever been made, and nothing is known as to the cost. The only statement on the subject from any reliable authority, is that made by the late Geo. Y. Wisner, C.E., of the United States Deep Waterways Commission, when he informed a Committee of the Canadian Senate that his belief was that a deep Welland-St. Lawrence waterway would cost double as much as the Georgian Bay Canal.

Future Traffic Requirements.

"Although a large part of the future grain crop of the North-West will doubtless find its way to market via Western railways and the Panama Canal, and some perhaps by the Hudson Bay Railway, an ever-increasing quantity will go by way of the Great Lakes, and sound business reasons as well as proper political and national considerations require that the largest possible part of this shall pass through our own channels in Canadian vessels.

—(Toronto Board of Trade Pamphlet.)

True.

Manufacturing Towns will Greatly Benefit.

"Some reference has already been made to the traffic which passes through to the Soo Canals, but it may not be amiss to say here that although the lake traffic is still in its infancy the number of vessels passing through the Soo Canals is fully three and a half times as great as the traffic through the Suez, and the tonnage twice as much as the total entered and cleared at the ports of Liverpool and London combined. As this enormous and rapidly-increasing traffic is largely comprised of ores and other raw products, it surely does not require to be demonstrated that the deepening of the waterway from Lake Erie eastward would be of immense advantage to the manufacturing towns of Ontario and Quebec."

—(Toronto Board of Trade Pamphlet.)

The logic of this statement is on a par with that of the rest of the pamphlet.

It would require a lot of demonstration to shew how the shipment of American iron ore in American vessels to Chicago and Pittsburgh from Lake Superior or of American coal from Lake Erie ports to Duluth, Fort William, and Port Arthur is going to be of immense advantage to the manufacturing towns of Ontario and Quebec. 55,000,000 out of a little over 62,000,000 tons of freight passing through the Sault Canals in 1910, or 88% of the entire traffic was thus accounted for. Absurd generalities based on the ore deposits and coal deposits belonging to our wealthy neighbours, and on what they are doing

with them, prove literally nothing so far as Canada is concerned. The question is—Where are the Canadian coal and ores for Canadian commerce, and what waterway will best serve to develop and market them?

Water Freights Moderate Railway Charges.

"Although for reasons already stated it is not likely or even among the possibilities that grain-carrying vessels will ever ply directly from the head of the lakes to European ports, yet were this waterway constructed there can be no doubt that there would be a great and increasing freight traffic in ocean-going vessels from the Great Lakes to Europe and back. The effect of such competition on railway freight rates was aptly summed up by Senator Townsend thus: If the project were realized, the Interstate Commerce Commission would no longer have occasion to pass upon railway rates from the Middle West to the Atlantic: water competition would keep them reasonable. The lessening of cost of bringing coal to Lake Ontario ports and the consequent reduction of prices at inland points would alone mean an enormous saving to our people."

—(Toronto Board of Trade Pamphlet.)

The argument with regard to regulation of freight rates applies equally to both the Georgian Bay and the Welland-St. Lawrence Waterways.

More inconsistency. In dealing with the Georgian Bay Canal, the Toronto Board of Trade object to it on the ground that

"Since coal as a rule is a dollar per ton dearer in Montreal than at Lake Erie ports, it is evident that none would be shipped by way of the proposed canal."

Now they say that

"The lessening of cost of bringing coal to Lake Ontario ports (by the improved St. Lawrence Waterway) and the consequent reduction of prices at inland points would alone mean an enormous saving to our people."

If the Board of Trade wish to be seriously taken, they ought not to contradict themselves flatly in this way within a few pages. If there is any portion of Ontario, where Nova Scotia coal could not compete with the American product, it is on Lake Ontario and Lake Erie, where the American coal has merely to be ferried across the lakes, and where the Nova Scotia vessels would not be able to secure east-bound cargoes, as they could on the Georgian Bay route.

Value of Water-Power Development.

"It is estimated by so eminent an authority as General Bixby, already mentioned, that by the improvement of the St. Lawrence route from the head of the rapids to Montreal, from four to five million horse-power would be developed. Assuming that a market would ultimately be found for one-half of this, or say two million

horse-power, and that the price suggested by the Georgian Bay engineers would be obtainable, this would more than pay the interest on the entire cost even should it reach $200,000,000."

—(Toronto Board of Trade Pamphlet.)

If General Bixby, who is a prominent United States engineer, ever made such a statement, it was a mere random assertion, based on the theoretical water-power of the St. Lawrence River, and not on any actual survey.

Theoretical and commercially available water-powers are vastly different. Thus the theoretical power at Niagara is about 8,000,000 horse-power. Franchises have been granted for development on the Canadian side of the river of about 450,000 horse-power. The Commission of Conservation say in their report: "Instead of 'millions' of horse-power being available, as has been sometimes stated, it appears that about half, and by all odds the better half, of Canada's usable share of Niagara Falls power has already been placed under control; and circumstances attendant upon the use of all the waters now authorized may show that ice, and other conditions, preclude the use of a further proportion of Canada's equity in the waters of Niagara Falls."

The power which can be developed on the St. Lawrence has been estimated by the Ontario Hydro-Electric Commission and the Commission of Conservation at less than 2,000,000 horse-power. As a large share of this would belong to the United States, it is probable that the usable power of the St. Lawrence available to Canada would be little in excess of 1,000,000 horse-power, and the use of this would be hampered by joint international control of the power dams. Much stress was laid on this point by Hon. Adam Beck in giving evidence before the Railway Committee of the House of Commons, when he stated that, owing to treaty obligations, we are limited on the St. Lawrence, and must depend on the Ottawa River, which must be the backbone of the supply of electricity to Ontario.

The idea of financing a $200,000,000 waterway on the St. Lawrence out of Canada's share of the water-power is, therefore, entirely illusory.

THE SUM OF THE MATTER.

"It seems clear that only by the deepening and improvement of the complete Welland-St. Lawrence route can Canada assure to herself her proper control of the water-borne traffic from the Great Lakes to the seaboard.

"That the immediate commencement of this work is necessary to prevent the New Erie route obtaining an initial advantage which it would be difficult for Canada to overcome, perhaps impossible.

"That the national and commercial advantages of this route will amply compensate for the cost, and that the water-power which would be developed is an important item to be considered."

—(Toronto Board of Trade Pamphlet.)

Not a single conclusion here stated is sustained by the preceding argument, or borne out by the facts. No assurance whatever of control of the water-borne traffic from the Great Lakes to the seaboard can be gained by improvement of the St. Lawrence-Welland route. Our 14-foot enlargement on that route failed even to meet the competition of the 6-foot Erie Canal. With only the 6-foot Erie Canal to contend against, 12,448,254 bushels of grain from Fort William and Port Arthur were shipped to American ports up to May 21st of the present season of navigation, and only 11,765,073 bushels to Canadian ports. Leaving out the lake and rail shipments to points on Lake Huron, it appears that only 5,459,632 bushels took the St. Lawrence route as against shipments of 10,745,844 bushels to Buffalo and 1,090,289 bushels to Erie.

Further enlargement of the Welland, while it will increase the facilities of Canadian carriers, will give American carriers still greater advantage, for it will reduce the barge canalling on the Erie route by 148 miles without making any corresponding reduction on our side.

Even with the deep waterway continued to Montreal, it is open to the Americans to meet its competition by a 21-foot or even a 30-foot waterway from Oswego to the Hudson, a work in the accomplishment of which our enlarged Welland will save them at least $50,000.000.

If it were true that Canada did not possess entirely within her own borders the natural and national route via the Ottawa River, we would naturally be forced to make the best of the situation. But to neglect so obvious a means of securing an independent national waterway, which will beyond question ensure national commercial independence, and the individual control of our own carrying trade to and from the Great Lakes, would appear to be a national folly of the first magnitude.

Although it involves repetition of statements scattered through the preceding pages, it is perhaps only proper that we should close this reply with a brief summary of the waterway problem from a national point of view, and a short statement of some of the reasons for regarding the immediate construction of the Georgian Bay Canal as the only possible solution open to Canada.

First and foremost, a solution worthy the name must be strictly national in character.

One of the first essentials to the political independence of Canada is that she shall preserve absolute control of her own commerce, and of the chief highways by which it is conveyed between the provinces and to her seaboards.

However attractive the proposal may appear that the United States and Canada should join in a great international system of waterways between the Great Lakes and the Atlantic, it is entirely inconsistent with any high national ideal and aim on the part of this country that our water-borne commerce between the lakes and the sea should be in any way subject to international control, or dependent upon our neighbours to the south, no matter how great their friendliness towards us.

Self-respect and self-interest both demand that we shall possess and govern our own independent trade routes.

Secondly, the solution must be both effectual and permanent, and not a mere temporary makeshift.

Great and prosperous as the commerce of Canada now is, it is but the promise of what is to come. Whatever action is now taken will directly affect our control of our own commerce for an indefinite period, and may either make or mar the carrying trade of Canada between the Atlantic and the Great Lakes for all time.

The only policy which will enable Canada to meet the competition of the new Erie Barge Canal, is the immediate construction of a direct through deep waterway from the lakes all the way to the seaboard. Any piecemeal scheme or half-way measure, such as enlargement of the Welland Canal, is doomed to failure before it is begun.

Canada cannot afford to be stampeded by sectional clamour into any hasty and ill-considered measures to defeat a competition by United States routes, which can remain effective in any case only so long as we delay in carrying out the strictly national policy of a through Canadian deep waterway to the seaboard. Nor can she afford, by side-stepping for such a purpose, to delay for one day the inauguration of such a national waterway policy.

Thirdly, the people of the United States are rivals for the carrying trade between Eastern and Western Canada, and must be so dealt with.

If the diversion of Canadian traffic from our national sea-ports to New York and other ports of the United States is undesirable, then it follows that the national waterways policy of this country should be that which will give the greatest measure of advantage to the Canadian carrying trade, without at the same time conferring equal or greater advantages on our trade rivals.

Further, in arriving at a solution the following well-authenticated and undeniable facts must be taken into account:—

(1) It is undeniable that expenditures on our boundary canals have, up to the present time, been more to the benefit of the United States than of Canada.

Although Canada has expended $80,000,000 on the Sault, Welland, and St. Lawrence Canals, and they cost her in interest on capital, operating expenses, etc., $3,500,000 yearly, she has only 15% of the traffic through them, while the United States enjoys 85% of the traffic at our sole expense.

In 1910 Canada's share of the traffic through the Canadian Sault lock was only 7%, while that of the United States was 93% of the whole.

One of the chief items of increase of traffic of the St. Lawrence and Welland Canals in recent years has been the shipment of United States coal to Canada. Most of this was shipped to Montreal where it came into competition with the Canadian product.

(2) Enlargement of the Welland without corresponding enlargement of the St. Lawrence Canals has already been tried once, and was an absolute failure, the entire benefit of the work accruing to the United States, while Canadian trade through the port of Montreal remained practically at a standstill until after the completion of the through 14-foot channel, eighteen years later than the opening of the New Welland.

The total traffic of the Welland Canal (covering the through shipments to and from Montreal) was 1,478,122 tons in 1871, and 1,506,484 tons in 1873.

The New Welland was opened for traffic in 1882. The only result which followed was the establishment of a line of large American propellers between Chicago and Ogdensburg, whereby the United States coastwise traffic through the Welland increased from 179,605 tons in 1880 to 653,213 tons in 1896, when it formed 51% of the total trade.

Canadian trade continued to languish or even decline, and in 1901 the total traffic through the New Welland was only 620,209 tons.

It was not until 1907, seven years after the completion of the through 14-foot waterway to Montreal that the Welland traffic reached the same level as in 1873.

For a period of thirty-four years there was not an increase of a single ton in the traffic, although the New Welland was in operation for twenty-five years of that time.

In 1907 it was 1,614,132 tons, and for the past five years has been increasing steadily.

The increase of the Canadian trade has been altogether since the completion of the through 14-foot waterway, and the creation of a fleet of boats adapted to the route.

(3) Enlargement of the Welland Canal without corresponding enlargement of the St. Lawrence Canals will increase rather than diminish the competition and advantages of American carriers on the Great Lakes and to an ocean port, and will place the national port of Montreal and the St. Lawrence Ship Channel, on which millions of public money have been expended, in a worse comparative position than they are at the present time.

(a) On the Upper Lakes Canada is at a disadvantage in competing with the great fleet of American freighters engaged in the ore and coal trade, but which at times are transferred to the grain trade.

In 1911 Canada had only five vessels of over 3,000 tons registration plying through the Sault Canal, while in the same year the United States had a fleet of 277 vessels of over 3,000 tons using the Sault Canals.

The aggregate registered tonnage of these five Canadian freighters was 20,942 tons, while that of the American fleet of large vessels was 1,178,049 tons.

Under present conditions 93% of the total traffic through the Sault Canals in 1911 was carried by American vessels, and only 7% by Canadian vessels. Thirty-six per cent. of the Welland Canal traffic in 1911 was carried by American vessels.

Enlargement of the Welland will extend this uneven competition to Lake Ontario, to the great advantage of the American carriers.

While it will allow five Canadian freighters of over 3,000 tons registration, now using the Sault Canal, to come down to Lake Ontario, it will open the door for nearly 300 American freighters of similar class.

(b) In the present condition of the Canadian waterways, Canadian carriers via our 14-foot Welland and St. Lawrence Canals, must, when the new Erie Canal is opened, meet the competition of a 12-foot Canal 352 miles long from Buffalo to the Hudson River.

Enlargement of the Welland will enable the big American freighters, carrying grain, to make Oswego their eastern terminus, instead of Buffalo.

Our St. Lawrence Canals will then have to compete with a 12-foot canal to the Hudson only 204 miles in length, instead of 352 miles.

Welland enlargement will not only, therefore, give the American freighters the same advantage in descending to Lake Ontario, enjoyed by Canadian vessels, but it will practically shorten the time of transit for every cargo of grain carried to New York via the Erie Canal by from 24 to 36 hours, and will reduce the cost of carriage to that port by from fifteen to twenty per cent. below that of carriage by the 352 mile Erie Canal from Buffalo to New York.

(c) Again, as regards return cargoes, Kingston has nothing to offer while Oswego, with a canal permitting large freighters to descend to Lake Ontario, will be able to furnish a very large westbound traffic of anthracite coal, and other commodities.

Oswego is ninety miles nearer to Scranton than Buffalo is, which means a saving of ninety miles rail haul on every cargo of coal from that district.

Several million tons are now shipped west from Buffalo yearly in the United States coastwise trade, and will be shipped from Oswego when the Welland Canal is enlarged.

This is almost entirely domestic commerce of the United States, in which Canadian carriers cannot share.

These facts are at present ignored by advocates of a new Welland Canal, and they contend the opposite, viz., that Canadian carriers, while they cannot compete successfully with the

352-mile Erie Canal from Buffalo, can readily hold their own against the 204-mile Erie Canal from Oswego.

In 1871, when American vessels paid tolls for the use of the Welland, and one of the chief objects of Welland enlargement was to secure carriage of grain from the American west, a different view was held with regard to Oswego. It was then contended that the Welland enlargement would divert trade from Buffalo to Oswego and would benefit Oswego as well as Kingston.

The Royal Commission, appointed by the Canadian Government in 1870, state in their report:—

> "The Welland, shortening as it does the canal route "to New York, could, even with the present tolls of the "Erie, satisfactorily compete for the transit of western "produce via Kingston and Oswego, were it equal in size to "the demands of the shipping interest.
>
> "The Board of Trade of Kingston admit that when "freights are brisk, the rate to Oswego is quoted often one-"half cent less in consequence of vessels going thither "being sure of despatch and return freights. Both Kings-"ton and Oswego must be benefited the moment the "Welland is enlarged, so as to admit propellers and sailing "craft of the size that are obtaining on the lakes; for then "it is admitted on all sides that there would be an immedi-"ate reduction of freight, ranging from two to four cents "a bushel on grain on account of the larger, and conse-"quently cheaper, class of vessel that can engage in the "trade."

Results shewed that this contention was correct in so far as shipments to Oswego and Ogdensburgh were concerned, for the trade of those ports increased about four-fold as a result of the New Welland.

But they proved also its fallacy as regards Kingston, for neither that port nor Prescott gained anything whatever by the enlargement, and, as already pointed out, it was twenty-five years after the opening of the New Welland before the aggregate traffic even got back to the level of 1873.

Evidence of the effect of return freights at Oswego, giving that port an advantage over Kingston, was given by several parties:—

CHAMBER OF COMMERCE, MILWAUKEE.

> "Average cost of carrying grain to Oswego is one-half "cent less on account of no return freight from Kingston."

"Freights between Chicago and Kingston or Oswego, "are slightly in favor of Oswego, mainly on account of "better and more return freights."

As Milwaukee and Chicago were the chief grain shipping ports at that time, their statements may be regarded as reliable.

W. H. Howland, of Toronto, stated:—

"Steam and household coal would, in all probability, "be taken for return freight for a long distance west. "Without the deepening of the St. Lawrence, as well as the "Welland Canal, this return freight would be limited to "American coal at Oswego, which would afford no profits "to Canadian producers or employment to Canadian "bottoms."

With regard to class of vessels, his testimony was:—

"The large vessels which have been built in Canada, "have been generally turned into American bottoms, the "limitation of their business to Kingston, which affords no "return freight, making them comparatively unprofitable "while owned on this side."

Any change in comparative conditions as to return freights since that time, has been to the advantage of Oswego, owing to development of United States westbound traffic in anthracite coal. With the 12-foot barge canal completed to that port, its facilities for handling traffic will be enormously increased.

If experience is any guide, therefore, we must expect from another Welland enlargement, results similar to those of the last one, viz., a large increase of traffic and material advantage to Oswego, without any corresponding gain being made by Kingston, or any other Canadian port.

While, as stated above, the St. Lawrence route to Montreal will be placed comparatively in a worse position for any effective competition against the Erie Canal route to New York, and the results will be even more damaging to the best interests of Canada than was the failure of the former enlargement.

(4) Enlargement of the Welland Canal, whether the St. Lawrence Canals are correspondingly enlarged or not, will tend to increase the strength of American competition by opening the way for construction of an American deep waterway from Oswego to New York, nearly 150 miles shorter than the dreaded Erie Barge Canal, and, under present treaty relations,

will save the Americans $50,000,000 on that project at the expense of Canada.

In 1900, the United States Deep Waterway Commission reported that the most favourable route for a deep waterway between the Great Lakes and the Hudson River, and the only one which would be considered, was from Lake Erie into Lake Ontario, and thence from Oswego to Troy, over practically the present Erie Canal route. No action was, however, taken by the Federal Government, and New York proceeded with her 12-foot barge canal to Buffalo. In 1908, the Superintendent of Public Works for New York State, realizing that the new Erie Canal would be out of the race if Canada constructed the Georgian Bay Canal, made a proposal to head off such action on the part of Canada, viz., that the State of New York should abandon construction of 186 miles of the barge canal between Buffalo and Syracuse, and open a 21-foot waterway between Oswego and the Hudson, and that they should appeal to the United States Federal Government to construct the link between Lake Erie and Lake Ontario. Naturally Buffalo interests were opposed to this plan, and it did not at the time meet with favour.

But when the Canadian government enlarges the Welland, permitting the big American freighters to go to Oswego, the alignment of forces will be changed and New York influence will be powerful enough to secure the opening of the deep waterway from Oswego to New York in order to prevent any possibility of traffic being carried to Montreal, instead of to that port.

It has been asserted that this waterway is impracticable, notwithstanding the favourable verdict of the United States Deep Waterways Commission, and that since their report an exhaustive examination has been made by engineers for the State of New York, which shows this to be the case.

This statement is untrue, and no such examination and report adverse to the findings of the Deep Waterways Commission has been made.

Owing to the fact that Montreal is only a summer port, and that shipping is not so readily available nor so cheap there as at New York, the Welland-St. Lawrence route to Montreal could not compete successfully against a 21-foot ship canal from Oswego to New York, even with the St. Lawrence canals deepened to correspond with the New Welland.

(5) The St. Lawrence River above Cornwall is a boundary stream. Its improvement by a series of dams, in the manner

proposed by engineers, can be carried out only as an international work. The water-powers developed will be the joint property of the United States and Canada. Divided ownership of the necessary regulating works involves the sacrifice by Canada of independent control of the St. Lawrence River navigation system. The only alternative, enlargement of the present canals, or construction of larger canals on the Canadian side of the river, would be a work of great magnitude and cost, which could not be completed for many years to come. And when built, there would still be 72 miles of canal on the Welland-St. Lawrence route as against less than thirty miles on the Ottawa route.

(6) Nearly 90% of the present traffic of the Great Lakes is domestic commerce of the United States, in which Canada cannot expect to share, no matter what depth her waterways may be, or on what route. The only canal used by any portion of this traffic more than at present, would be the new Welland, and that only because of its use being given to Americans free of cost, and its furnishing a more favourable route to New York than that via the Erie Barge Canal from Buffalo.

(7) The principal return traffic for Canadian vessels on the present route, either as existing or with an enlarged Welland, is American coal. There are several important reasons why the continuance of these conditions is unfavourable to Canada.

(a) It leaves the Province of Ontario dependent on a foreign source of fuel supply for operation of railways and carrying on of industries.

(b) It sends out of the country annually millions of dollars for a foreign product, which, if paid to Canadian producers, would greatly extend home industries.

(c) The Province of Nova Scotia, for want of transportation facilities, is kept out of the best Canadian market for coal.

(d) Canadian carriers on the lakes are at a disadvantage in being obliged to go to United States ports for return cargoes, and there compete with American vessels at their ports of discharge of eastbound cargoes.

(e) It bases the success of Canadian vessels in competing for the grain traffic from the Canadian North-West on their ability to secure return cargoes of a foreign product in foreign ports on such uneven terms, and, therefore, makes Canada's hold on the carrying trade from her own North-West insecure.

(f) Canada cannot control carriage of her own grain eastward, so long as she is dependent on the American coal trade for return cargoes.

To establish reciprocal trade in Canadian products is a national necessity, without which our commerce and carrying trade on the lakes and to the seaboard, must always remain more or less dependent upon our neighbours.

(8) Agricultural products furnish less than one-sixth of the traffic of Canadian Canals. Important as the grain carrying trade from the Canadian North-West undoubtedly is, it is not, therefore, the chief factor in the waterways problem. The most important elements of the traffic of the Great Lakes are iron and coal, which in 1910 formed 86% of the movement of freight through the Sault Canals.

The item of greatest economic importance is the iron ore traffic, the possession of which by the United States on the Great Lakes has not only built up a great fleet of American vessels, the competition of which Canadians are unable to meet, but has been, perhaps, the greatest single cause of the industrial prosperity of the United States.

(9) The building up of reciprocal commerce between east and west in Canadian products, must be the basis of any satisfactory solution.

The solution of the waterways problem, therefore, involves——

1. The building up of interprovincial commerce in heavy commodities and raw materials between east and west.

2. The development of national resources in iron, coal, lumber, pulpwood, pulp, paper, cement, manufactures and other articles which will create on the Canadian side of the Great Lakes, and between the Lakes and the seaboard, an independent national commerce similar to that of the United States.

3. The opening of the Ontario and Western markets to Nova Scotia coal.

4. The development of the rich mineral, timber and agricultural areas of New Ontario and Northern Quebec.

5. Co-operation to the best possible advantage with our transcontinental railway systems.

6. The cost of transportation decreases as its volume increases, and if the production and trade of Canada can be developed along the lines indicated, the commerce created will form the basis of such a reciprocal traffic between the Provinces, and will lead to such favourable transportation con-

ditions as will ensure to Canada absolute control of the grain carrying trade from her own North-West.

The Georgian Bay Canal route meets all these requirements.

(1) Its location is most favourable.

It is the shortest and most direct route, and the most favourable for interprovincial traffic.

It passes through the heart of the country, instead of along its extreme edge.

Owing to its situation directly along the path of transcontinental railway traffic, it is the best water-route for co-operation with the great railway systems of Canada, in moving heavy freights east and west, and the water service afforded by it will complement the rail service to the greatest possible advantage.

Every ton of freight moved by rail between Eastern and Western Canada must either cross the Georgian Bay Canal route, or pass to the North of it.

It must be a great factor in the development of both Northern Ontario and Quebec, will lead to extension of population northwards, and will facilitate railway operation for opening up the country.

It will give Nova Scotia opportunity to ship her coal westward; and will create an exchange in grain and coal between the head of the Lakes and the Atlantic seaboard.

It is the most favourably situated for development of the iron resources of Canada, both those in the valley of the Ottawa River itself, and to the North of the Great Lakes, and by permitting the assembling together at one place of Canadian iron ore and coal, will build up a Canadian iron industry.

The Ottawa Valley is one of the greatest water-power centres of the Dominion, and with the combination of cheap and plentiful power, cheap and direct water transportation to all the principal markets, and abundant raw materials readily available, it should become an industrial area second to none in the world.

(2) It has the physical requirements of a great traffic route.

The water supply is ample and abundant.

The amount of water available on the Nipissing summit level is equal to that flowing through French River, viz., about 8,000 cubic feet per second.

This is over four times as much as the engineers state would be required for purposes of both power and navigation on the proposed 25-foot New Welland Canal.

The route is a natural waterway, calling for less than thirty miles of artificial channel, and for the most part will be navigable at a high rate of speed by any class of vessels capable of using it.

The Ottawa River is comparable in size to the Danube. By the regulation works now under way, its low water flow will be increased to about three times the present low water volume.

It will be a lake and river, slackwater channel, through which an annual traffic of 50,000,000 tons or more could be eventually handled quite as well as is now done through the St. Mary's, St. Clair, and Detroit Rivers, connecting the Great Lakes.

The dams and other structures throughout will rest on rock foundations, and will, therefore, be permanent.

No quicksands or costly slides to overcome, as has been the case with the Panama and the Welland and other St. Lawrence Canals.

Preliminary surveys have already been completed, and construction of a through waterway via the Ottawa will not only cost less, but can be completed much sooner than on the St. Lawrence route.

Its construction can be carried on without interference with existing trade, and while work is going on Canada will enjoy the uninterrupted use of the present canal system.

Every dollar spent on the Georgian Bay Canal will benefit Canadian carriers, shippers, and ports, to the fullest extent, without opening the way for diversion of traffic to United States routes.

(3) Lastly, and most important of all, it is a strictly NATIONAL route which will ensure to Canada the absolute and undivided control both of her waterway from the Great Lakes to the sea and of the water-powers developed thereon, and is free from all the international problems which beset our boundary waters.

The opening of such a Canadian waterway will be of paramount importance to this country, and will go far to ensure the commercial and political independence of Canada.

The principles which should govern our action, as laid down by the Toronto Board of Trade, must be heartily endorsed, when they say:—

"As to the importance to Canada of retaining the control of traffic "seeking its way to the world markets from the West and North-West "by the route of the Great Lakes, there is practically unanimity of

"opinion in the Dominion. Canadians are agreed that this is essential "to our commercial independence, and that without it even the pre-"servation of the political union of the provinces and the maintenance "of our position as an integral part of the British Empire, would "become difficult to the verge of the impossible. Dependence upon "any other nation, however friendly, for access to their own seaboard "is repugnant to any self-respecting people, and would inevitably lead "to commercial subserviency, if not, indeed, to political capitula-tion. . . . . ."

"The matter ought not to be discussed in a sectional spirit; "certainly it should not be decided except upon the highest national "grounds. Whichever scheme will most certainly, having proper "regard to probable cost, accomplish the national and imperial objects "aimed at, should be adopted quite regardless of sectional demands. "For Parliament to decide the matter upon any lesser grounds would "amount to a betrayal of trust."

The boundary waters of Canada will, and must, remain forever subject to the joint control of our neighbours and ourselves. But nature has given us, in the Ottawa and French Rivers, the means of providing ourselves with a great, independent, national, deep waterway, and we strongly believe its immediate development to be the only truly national waterways policy for this country.

"It would be an unwise policy," said the late Joseph Tasse, M.P., in the House of Commons in 1885,—"it would "be an unwise policy to improve only the frontier; let us "give width and breadth to the Dominion by developing "its central points. Let us forge another powerful link "between the east and west, and let us cement and con-"solidate some of the most essential parts of our economic "and national fabric. Let us be equal to the occasion. "Let us rise to the height of the interests involved. 'Don't "give up the ship' exclaimed the American sailor, Lawr-"ence, in dying bravely for his country. 'Don't give up "the ship' I would say to the Government,—we are all "deeply interested in its course towards our destination,— "but do give us one of the safest, one of the most import-"ant channels through which it could be directed, distri-"buting wealth all along its passage. Impressed as I am "with the magnitude, with the necessity, with the far-"reaching results of this plan, I have no hesitation in "saying that the Government that will accomplish this "work, will be a patriotic, a far-seeing Government, a "Government that will deserve to be commemorated in "Canadian history."

ARTHUR J. FORWARD,

Sec. Can. Fed. Boards of Trade & Municipalities.

Sources of Information

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Report on the Erie Barge Canal, 1900.

Annual Report, Isthmian Canal Commission, 1911.

"Our object is to **keep Canadian trade in Canadian channels**, and to continue as much as we can the policy of making that trade run east and west."—Rt. Hon. R. L. Borden, Premier of Canada.

"Our lake and ocean carrying trade should be carried on by our own people as far as possible, in Canadian ships, owned by Canadians. It does not seem to me that there could be a more patriotic aim than to endeavour to keep Canadian trade in Canadian channels."—Hon. Wm. Pugsley.

"The Ottawa River is a gift of nature, whose value can scarce be over-estimated. It seems destined to be as great a national highway as the Mississipi and its value as a source of electric power will also be an important national asset.

"Nature has been generous in the construction of this North, and its long stretches of navigable waters are among the Dominion's most valuable assets. These stretches are of a sufficient depth for the largest vessels on the Upper Lakes, and once they are connected by canal construction, thre will be a water route from Port Arthur and Fort William to Montreal no more circuitous than the average route by rail on this continent."—Toronto Globe.

"$100,000,000 would be well spent."—Victoria, B.C., Times.

"Would be of almost incalculable benefit to Canada from a commercial standpoint."—Nelson, B.C., News.

"Its speedy completion is of very great importance."—Quebec Chronicle.

"Canada is rapidly forging to the place of the first wheat exporting country in the world. The transportation of this wheat will require a vast expenditure, and any Government that is wise will certainly keep looking ahead to the future."—Winnipeg Grain Growers' Guide.

"Were the Georgian Bay Canal once undertaken, the boom it would give to our great North and West would be heralded from coast to coast, and population would flow into Canada as never before.

"It is, beyond contradiction, the shortest and cheapest route possible between the grain fields of the western prairies and Atlantic tide water."—Montreal Trade Review.

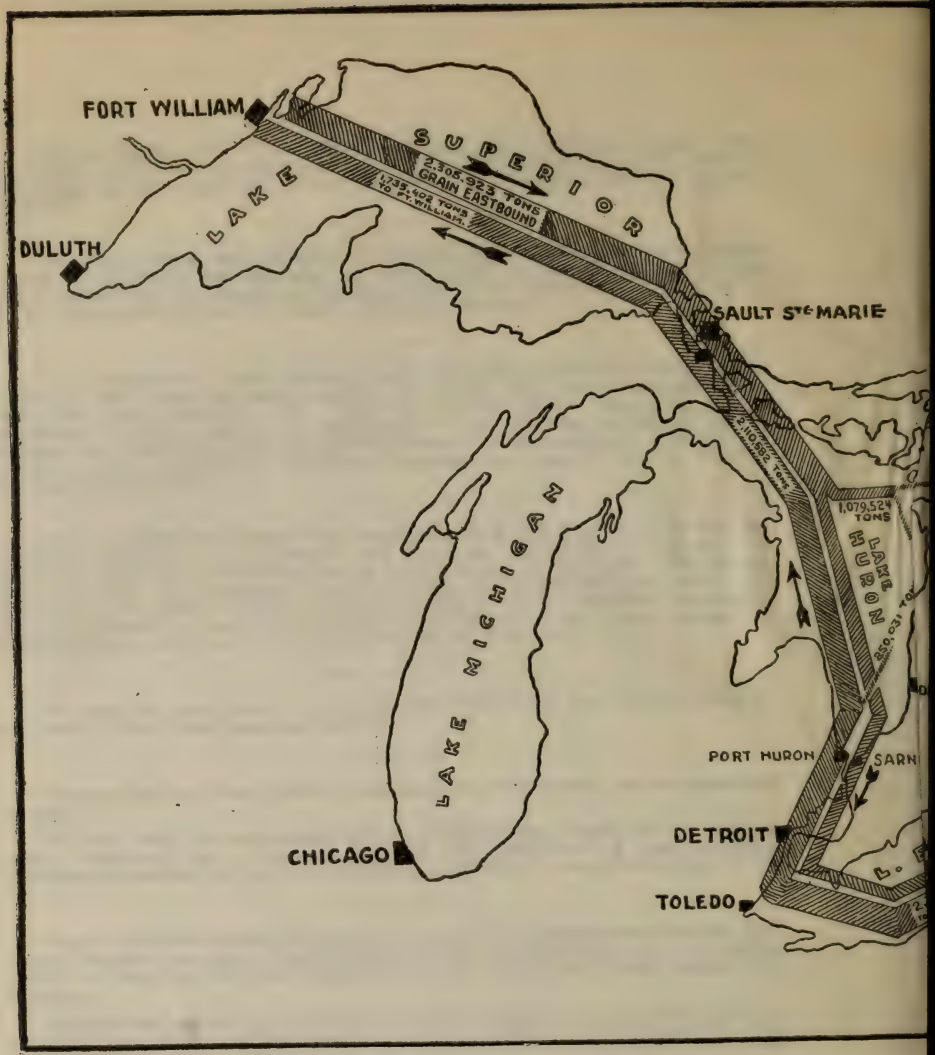
"If our Government could recognize the tremendous possibilities of the increase of trade to this country by the construction of the Georgian Bay Canal, steps would at once be taken to accomplish this much-needed project which would settle for all time the supremacy of this great highway of commerce from the Great Lakes to the Atlantic seaboard over all others on this continent.

"The Government could not undertake any other national enterprise that would aid the trade and commerce of Canada as much as the building of this much talked of and greatly needed canal."—Montreal Trade Bulletin.

"Could not fail to give a great impetus to the Maritime Provinces."—Glace Bay Gazette.

"Probably of more value to Nova Scotia than the building of the Grand Trunk Pacific Railway."—Maritime Mining Record.

"The opening of the Great Lakes for the first time to ocean-going traffic would be an event of the first commercial magnitude."—London Times, Eng., Suppl.



EXPLANATION

The upper shaded line through the Great Lakes represents the volume of the grain trade from Fort William eastward, and shows its destinations.

The lower shaded line through the Great Lakes represents the volume of west bound shipments of American coal from Lake Erie ports to the Sault and Fort William.

The shaded line through the St. Lawrence between Sydney and Montreal, represents westbound shipments of Nova Scotia coal to the St. Lawrence markets.

All tons are net tons of 2,000 lbs.

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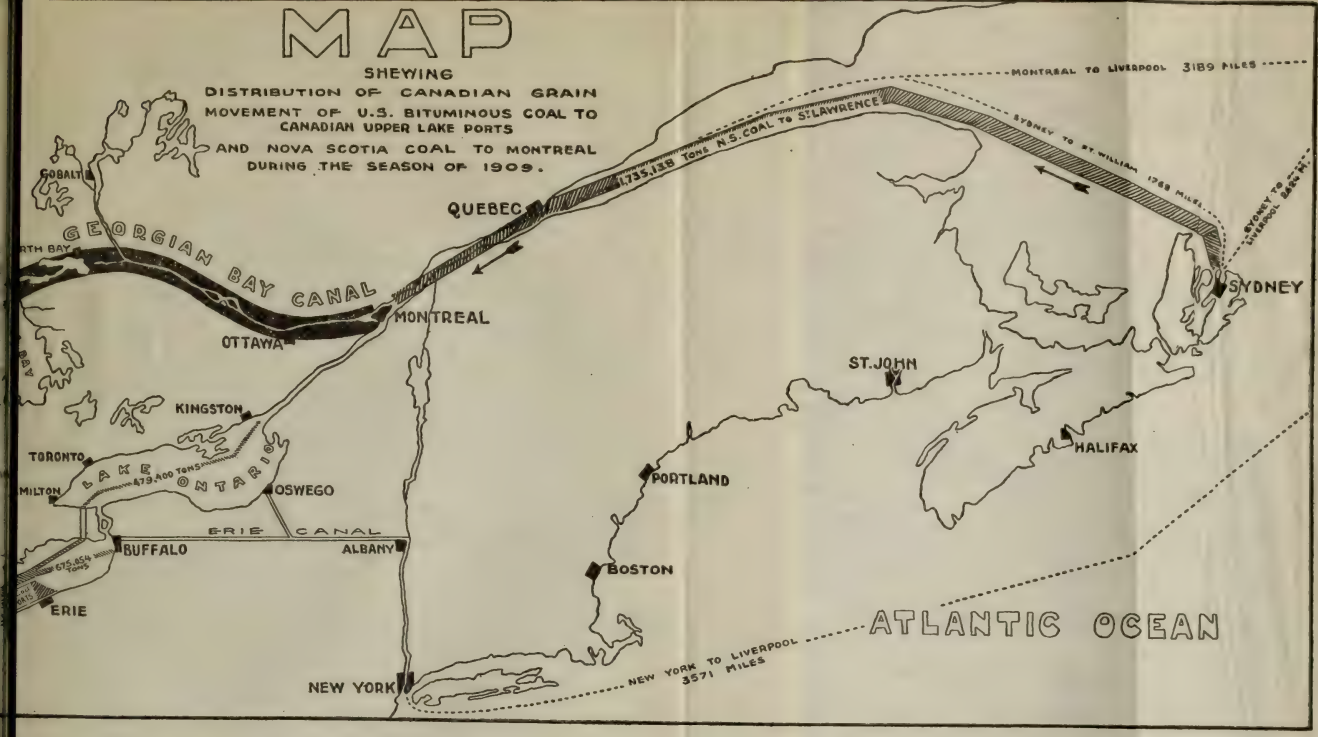

rtation problem is exchange of products between West and East.
0 have been expended on waterways, and we have not reached a solution. Why?
es we have heavy EAST BOUND shipments of grain, and almost no return cargoes of Canadian products.
ave large WEST BOUND shipments of coal, and vessels going back nearly 900 miles light.
es, Canada must depend upon the United States for return cargoes of coal, upon which Ontario and Manitoba
nt for their fuel supply.
ate transportation facilities Canadian coal is barred from proceeding farther westward than Montreal, and
hut out of valuable home markets which are enjoyed as a monopoly by the American miners.
that we must look to United States sources for return cargoes on the Great Lakes, Canadian vessels are
isadvantage in competing for the carriage of Northwest grain.

RACTICAL SOLUTION lies in the opening of a THROUGH DEEP WATERWAY BETWEEN THE LAKES which will allow grain vessels to pass from the head of the Lakes to an ocean port without transhipment, l vessels from the Atlantic Coast to go west to Fort William.

IAN BAY CANAL will bring together into the same channel our rapidly growing eastbound grain traffic d our westbound coal traffic from the Coast, where each will nourish and support and become the natural other.

solves itself into the question:—Shall Canada continue to bar further progress of Eastern Canadian coal into ba markets, leaving the monopoly thereof to the United States, and bring the grain of the Northwest into become a bone of contention among competing routes with the certainty that a large share of it will to United States channels? Or, shall she open the SHORT CUT, via The Georgian Bay Canal, bringing all possibility of diversion en route, to a Canadian seaport, and opening the way for Canadian coal to more markets?

The Georgian Bay Canal not only serves nearly 300 miles in distance, but is a river and lake route ensuring both speed and safety of passage. Nearly 420 miles of the route, out of a total distance of 440 miles, follow the course of some lake or river, and 346 miles require no improvement whatever, other than raising of the water surface, to be navigable by the largest vessels on the Great Lakes. Of actual CANAL there are only 28 miles on the route, being one mile more than the length of the Welland Canal alone, and forty-four miles less than the aggregate length of canals on the Welland-St. Lawrence route.

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